AMERICAN ECONOMIC ASSOCIATION

Organized at Saratoga, September 9, 1885

Past Presidents

JOHN B. CLARK, Columbia University
ARTHUR T. HADLEY, Yale University
RICHARD T. ELY, Northwestern University
EDWIN R. A. SELIGMAN, Columbia University
FRANK W. TAUSSIG, Harvard University
JEREMIAH W. JENKS, New York University
DAVIS R. DEWEY, Massachusetts Institute of Technology
HENRY W. FARNAM, Yale University
FRANK A. FETTER, Princeton University
DAVID KINLEY, University of Illinois
JOHN H. GRAY, American University
WALTER F. WILLCOX, Cornell University
THOMAS N. CARVER, Harvard University
JOHN R. COMMONS, University of Wisconsin
IRVING FISHER, Yale University
HENRY B. GARDNER, Brown University
HERBERT J. DAVENPORT, Cornell University
JACOB H. HOLLANDER, Johns Hopkins University
HENRY R. SEAGER, Columbia University
CARL C. PLEHN, University of California
WESLEY C. MITCHELL, Columbia University
ALLYN A. YOUNG, London School of Economics
EDWIN W. KEMMERER, Princeton University
THOMAS S. ADAMS, Yale University
FRED M. TAYLOR, University of Michigan

OFFICERS FOR THE YEAR 1929

President

EDWIN F. GAY, Harvard University

Vice-Presidents

WADDILL CATCHINGS, New York City
W. M. DANIELS, Yale University

Secretary and Treasurer

FREDERICK S. DEIBLER, Northwestern University

Counsel

JOHN E. WALKER, Washington, D.C.

Elected Members of the Executive Committee

FRED R. FAIRCHILD, Yale University
GEORGE W. DOWRIE, Stanford University
WILLIAM H. KIEKHOFER, University of Wisconsin
EDMUND E. DAY, University of Michigan
RICHARD T. ELY, Northwestern University
ERNEST L. BOGART, University of Illinois

Managing Editor of the American Economic Review

DAVIS R. DEWEY, Massachusetts Institute of Technology, Cambridge, Massachusetts

Editorial Board

FRANK H. KNIGHT, University of Chicago
JOHN ISE, University of Kansas
EDWIN G. NOURSE, Washington, D.C.
JOHN M. CLARK, Columbia, University
SUMNER H. SLICHTER, Cornell University
I. L. SHARFMAN, University of Michigan

Program Committee

ROSWELL C. MCCREA, Columbia University
M. B. HAMMOND, Ohio State University
MAX HANDMAN, University of Texas

Inquiries and other communications regarding membership, meetings, and the general affairs of the Association, as well as orders for publications, should be addressed to the Secretary of the American Economic Association, Northwestern University, Evanston, Illinois.

The
American Economic Review

Vol. XIX, No. 1 SUPPLEMENT March, 1929

Papers and Proceedings

of the

Forty-first Annual Meeting

of the

American Economic Association

CHICAGO, ILLINOIS

DECEMBER, 1928

Edited by the Secretary of the Association

Publication Offices: Menasha, Wisconsin, and Evanston, Illinois.

Subscriptions: American Economic Association, Evanston, Illinois.

Copyright, 1929, by
AMERICAN ECONOMIC ASSOCIATION

Printed by
The George Banta Publishing Company

General
Weber

TABLE OF CONTENTS

PROGRAM OF THE FORTY-FIRST ANNUAL MEETING

Wednesday, December 26

6:00 P. M. MEETING OF THE EXECUTIVE COMMITTEE

8:00 P. M. FIRST SESSION (Joint Meeting with the American Association for Labor Legislation)

Presiding Officer: S. A. Lewisohn, President, American Association for Labor Legislation

General Topic: UNEMPLOYMENT

Paper: Market Shifts, Price Movements, and Employment
S. H. Slichter, Cornell University

Paper: Some Observations on Unemployment Insurance
Leo Wolman, National Bureau of Economic Research

DISCUSSION:

Isadore Lubin, Institute of Economics
B. M. Squires, Chicago Men's Clothing Industry

Thursday, December 27

9:00 A. M. BUSINESS MEETING: Reports of Officers and Committees, etc.

10:00 A. M. ROUND TABLE CONFERENCES

1. Marketing (Joint Meeting with the American Association of Collegiate Schools of Business)
Chairman, Paul D. Converse, University of Illinois

SPEAKERS:

W. L. White, University of Texas
V. H. Pelz, American Institute of Food Distribution[1]
W. W. Warshawer, The Wieboldt Stores, Chicago
P. J. Stokes, National Retail Hardware Association
Karl D. Reyer, Wittenberg College

2. Land Economics
Chairman, John V. Van Sickle, Fellowship Secretary, Social Science Research Council

SPEAKERS:

H. D. Simpson, Institute for Research in Land Economics
Edwin H. Spengler, Columbia University

[1] Manuscript not submitted.

3. Law and Economics

Chairman, Walton H. Hamilton, Yale School of Law

SPEAKERS:

James A. McLaughlin, Harvard University
Dexter M. Keezer, Dartmouth College
Donald R. Richberg, Attorney, Chicago
Underhill Moore, Columbia University

2:30 P. M. SECOND SESSION (Joint Meeting with the American Statistical Association)

Presiding Officer: C. B. Hazelwood, President, American Bankers' Association

General Topic: BANKING POLICY AND THE BUSINESS CYCLE

Paper: Price Stabilization
O. M. W. Sprague, Harvard University

Paper: London and the Trade Cycle
R. G. Hawtrey, The British Treasury

Paper: Federal Reserve Policy and Brokers' Loans
H. L. Reed, Cornell University

8:00 P. M. THIRD SESSION (Joint Meeting with the American Statistical Association and the American Political Science Association)

Presiding Officer: Silas H. Strawn, Chicago

PRESIDENTIAL ADDRESSES:

Perspective in Political Science, 1903-1928[2]
Jesse S. Reeves, American Political Science Association

What Price Prosperity?[3]
Carl Snyder, American Statistical Association

The Guidance of Production in a Socialist State[4]
Fred M. Taylor, American Economic Association

Friday, December 28

10:00 A.M. FOURTH SESSION

Presiding Officer: Fred M. Taylor, University of Michigan

General Topic: THE RUSSIAN ECONOMIC SITUATION

Paper: The Central Planning and Co-ordination of Production in Soviet Russia
Raymond T. Bye, University of Pennsylvania

[2] Will be published by American Political Science Association.
[3] Will be published by American Statistical Association.
[4] Will be published in March number of the *American Economic Review*.

DISCUSSION:

Paul H. Douglas, University of Chicago
L. L. Lorwin, Institute of Economics
Z. Clark Dickinson, University of Michigan
Joseph M. Pavloff, Amtorg Trading Corporation

2:30 P. M. ROUND TABLE CONFERENCES

1. International Differences in the Labor Movement
   Chairman, Leo Wolman, National Bureau of Economic Research

   SPEAKERS:

   Selig Perlman, University of Wisconsin
   Carter Goodrich, University of Michigan

2. Tariff-Making in the United States
   Chairman, Lynn R. Edminster, Institute of Economics

   SPEAKERS:

   Philip G. Wright, Institute of Economics
   George P. Comer, Chief Investigator, Tariff Commission
   Henry Chalmers, U. S. Department of Commerce
   Harry T. Collings, Wharton School of Finance
   Herbert F. Fraser, Swarthmore College

3. Economic History
   Chairman, M. S. Handman, University of Texas

   SPEAKERS:

   F. H. Knight, University of Chicago
   Herbert Heaton, University of Minnesota
   Heinrich Maurer, Lewis Institute
   M. M. Knight, University of California

4. Locality Distribution of Industries
   Chairman, R. C. Epstein, University of Buffalo

   SPEAKERS:

   Fred E. Clark, Northwestern University
   Hiram L. Jome, Dennison University
   Arthur H. Cole, Harvard University
   O. P. Pearson, National Automobile Chamber of Commerce

8:00 P. M. FIFTH SESSION

Presiding Officer: I. L. Sharfman, University of Michigan
General Topic: ELECTRIC POWER AND LIGHT UTILITIES
Paper: The Regulation of Electric Light and Power Utilities
C. O. Ruggles, Harvard University
Paper: An Inductive Study of Publicly Owned and Operated vs. Privately Owned but Regulated Electric Utilities
H. W. Peck, Syracuse University

DISCUSSION:

John Bauer, American Public Utilities Bureau
Karl E. Leib, University of Washington[5]

Saturday, December 29

9:00 A. M. BUSINESS MEETING: Election of Officers, etc.

10:00 A. M. SIXTH SESSION

Presiding Officer: M. B. Hammond, Ohio State University

General Topic: COMMERCIAL MOTOR TRANSPORTATION

Paper: The Regulation of the Common Carrier Motor Vehicle with Respect to Its Competitive Aspects
H. R. Trumbower, University of Wisconsin

Paper: The Commercial Motor Vehicle and the Public
M. H. Hunter, University of Illinois

DISCUSSION:

William M. Duffus, Ohio State University

12:00 M. MEETING OF THE EXECUTIVE COMMITTEE

[5] Manuscript not submitted.

MARKET SHIFTS, PRICE MOVEMENTS, AND EMPLOYMENT

By Sumner H. Slichter

Cornell University

Between 1920 and 1927, factory employment in the United States decreased by approximately 10 per cent, and railroad employment by nearly 15 per cent.[1] During the first nine months of 1928, factory and railroad forces have been smaller than in the corresponding period of 1927. In mining there has been no appreciable change since 1920, but in agriculture there was a drop of approximately 900,000 between 1920 and 1925, and it is probable that there has been an additional drop of over 400,000 between 1925 and 1928.[2] The total shrinkage of employment in these four major branches of industry between 1920 and 1927 has probably been about 2,300,000.[3]

During the last eight years there have been substantial increases of employment—no one knows precisely how large—in the professions, the building trades, public utilities, hotels, clerical work, highway transportation, the distributive occupations, the repair trades, some forms of personal service, and bootlegging. These increases have probably exceeded the drop in manufacturing, railroading, and farming. Between 1920 and 1928, however, the population of the country increased by about 13,600,000. These facts indicate that it is at least

[1] The downward bias in the figures of factory employment collected by the United States Bureau of Labor Statistics (due to their failure to take account of employment in new plants) renders the estimates of the change in factory employment since the census of manufactures in 1925 somewhat conjectural.

[2] In estimating the change in agricultural employment between 1920 and 1925, I have assumed that the ratios of both males and females gainfully employed in agriculture to all males and females over 10 years of age in the farm population were the same in 1925 as in 1920, and I have based the estimate upon the changes in the male and female farm population of 10 years or over between 1920 and 1925. The estimate for the period 1925 to 1928 is based upon the Department of Agriculture's conclusion that there was a net decline of 1,283,000 in farm population during this time. (*Report of the Secretary of Agriculture*, 1928, p. 44.) From this figure the decrease in employment was computed by using the proportion of all agricultural population gainfully employed, as indicated by the census of 1920. My estimate of the decrease in agricultural employment may be seriously in error because the rapid decrease in farm population may have altered the proportion of persons gainfully employed in agriculture. Furthermore, the estimate of a net decrease of 1,283,000 in farm population between 1925 and 1928 is extremely conjectural because it is based upon small samples.

[3] In addition, there was a decrease of over 200,000 in the civil and military employees of the federal government. The figures of factory employment also cover railroad repair shops in which there was a decrease of about 125,000 between 1920 and 1927. Allowance must be made for this overlapping of the factory and the railroad figures in estimating the total change in employment.

probable that unemployment during the last year has been greater than at any time since 1924 and possibly greater than at any time since 1922.[4] Some estimates place the increase between 1923 and the beginning of 1928 as high as 3,000,000; others as low as 700,000. It is a striking commentary upon the state of our information that such serious disagreement can exist. In fact, it is not even certain that unemployment has increased. All that we can be sure of is that the number of persons engaged in farming, manufacturing, and railroading has diminished substantially and that the number engaged in mining has changed little. In this paper I shall attempt to explain why employment in farming, manufacturing, railroading, and mining has diminished or failed to grow, and to describe some of the major influences which are affecting the rate at which the displaced men are being absorbed in other branches of industry.[5]

The recent shrinkage in factory, railroad, and agricultural employment has not been caused by a drop in production. On the contrary, it has occurred despite a substantial expansion of physical output. In this respect it differs from the more familiar contractions in employment which accompany seasonal and cyclical slumps. Agricultural production, it is true, was slightly lower in 1927 than in 1920 but this was because of the abnormally large crops in 1920. Between 1919 and 1927 there was a slight increase in the output of farm products.[6] Factory production, on the other hand, increased 22 per cent between 1920 and 1927, the output of freight-ton-miles by the railroads 4 per cent, and the stationary employment in mining was accompanied by an increase of about 20 per cent in production.[7] It is evident that

[4] The low point in employment was apparently reached in January, 1928.

[5] The estimates of the net change in employment are rendered doubly unreliable by the fact that *both* the decreases and the increases are uncertain. Should the errors in the estimates of increases and decreases not be compensating, the final estimate of the net change might be far too large or too small. The approximate amount of many changes in employment is extremely doubtful. Some of the uncertainties in the estimates of agricultural employment were indicated in a previous footnote. We cannot be certain that the bias in the Bureau of Labor's index of factory employment has been the same since 1925 as it was between 1923 and 1925. No one knows how far the expansion of employment in the building trades in the large cities is a net increase and how far it represents simply a shift of workers from the small towns where the building trades have been depressed. We lack information concerning the extent to which the increase in garage employees is simply a transfer from blacksmith shops and livery stables. Professor H. B. Meek, director of the course in hotel management at Cornell University, is authority for the statement that the increase in hotel and restaurant workers may be anywhere between 500,000 and 1,000,000. Even more uncertain is the number of persons whose sole occupation is the manufacture or distribution of intoxicants. And no one knows very definitely how the total number of persons engaged in merchandising has been affected by the many recent changes in methods of wholesaling and retailing.

[6] *Review of Economic Statistics*, July 1926, VIII, 151, and *Commerce Yearbook*, 1928, I, 2.

[7] *Federal Reserve Bulletin*, October 1928, XIV, 698; *Commerce Yearbook*, 1928, I, 587.

there has been a substantial advance in physical output per worker. In manufacturing, for example, this increase was about 36 per cent between 1920 and 1927, in agriculture about 7 per cent, in railroading about 21 per cent, and in mining about 20 per cent.[8]

The rapid growth of physical output per man has been eagerly seized upon as an explanation for the displacement of labor. Because workers are producing more, fewer of them are said to be needed. Why are they producing more? "Labor-saving methods and machines," is the most frequent answer. The rapid displacement of men by technical changes has elicited cries of alarm from many persons, including the Secretary of Labor, the President of the American Federation of Labor, and even the late T. W. Barron of the *Wall Street Journal* who said last June: "The trouble at the base of the western farm and the New England factory is overproduction due to increasing and improved machinery. . . . Economic writers now stress the danger of enlarged output with enlarged unemployment reducing consumption."[9]

But although greater output per worker is important in explaining the tendency of employment in farming, manufacturing, railroading, and mining to shrink or to remain stationary, it is not in itself *the* explanation. To begin with, in neither mining nor railroading has production per employee grown as rapidly since 1920 as it did during the decade ending with 1919. Yet between 1910 and 1920, the number of mine workers and railroad workers increased. In manufacturing, it is true, there has been an almost revolutionary change in the productivity of labor. Between 1909 and 1919, the average output per factory worker *diminished* about 5 per cent; between 1920 and 1927, it increased about 36 per cent.[10] But even in manufacturing, the relationship between labor's productivity and its displacement is more indirect and more complicated by other circumstances than many com-

[8] This estimate of the increase of production per railroad worker is substantially larger than that of the United States Bureau of Labor Statistics for the period 1920-1926. (See *Handbook of Labor Statistics*, 1924-1926, p. 556.) The reason is that the Bureau's estimate is based upon both freight-ton-miles and passenger miles and my estimate is based upon freight-ton-miles only. The inclusion of passenger miles after 1920 creates a serious error in the Bureau's estimates because the number of passenger miles produced is affected by the number of passengers per train and between 1920 and 1926 the average number of passengers per train fell from 80 to 61. (*Statistical Abstract of the United States*, 1928, p. 393.) The amount of productive service rendered by the employees in passenger service is best measured by *passenger-train-miles*. Between 1920 and 1926 the number of miles run by passenger trains *increased* from 561,600,000 to 573,600,000. During the same period, the output of passenger-miles (the figure used by the Bureau of Labor Statistics) *decreased* from 46,800,000,000 to 35,500,000,000. Because the percentage increases in freight-ton-miles and passenger-train-miles were very similar between 1920 and 1927, I have used only freight-ton-miles in estimating the change in output per worker.

[9] American Federation of Labor, *Weekly News Service*, June 15, 1928.

[10] E. E. Day and W. Thomas, "The Growth of Manufactures, 1899-1923," *Census Monographs*, VIII, 36.

mentators assume. The industries in which the effectiveness of labor has grown most rapidly are not necessarily those in which employment has diminished, and many important decreases in factory employment appear to be attributable to causes other than greater output per worker.

The United States Bureau of Labor Statistics has studied the productivity of labor in eleven industries. The greatest increase between 1919 and 1925 occurred in the rubber goods industry where the output per man increased 139 per cent.[11] The number of employees diminished slightly, by 7.6 per cent, between 1919 and 1925. The next largest gains occurred in the automobile and the petroleum industries. In each the average output per worker almost exactly doubled between 1919 and 1925.[12] Nevertheless the number of employees increased 11 per cent in petroleum refining and 24 per cent in automobile manufacturing.[13] If we rank the eleven industries studied by the Bureau in the order of the gain in the effectiveness of labor, we find that, among the six ranking highest, the employees increased in three and decreased in three; and that, among the five ranking lowest, the employees increased in only one and decreased in four. In many industries besides those studied by the Bureau of Labor Statistics, radical technical changes during the last six or seven years have been accompanied by substantial increases in employment. In the cast iron pipe industry, centrifugal molding is being rapidly introduced, but employment increased 82 per cent between 1919 and 1925; in the pottery industry, the methods of distributing clay slip have been radically changed and casting is superseding pressing in some branches of the trade, but employment increased 31 per cent; in the bakery industry, where machine methods are spreading rapidly, employment expanded 13 per cent.

If one examines the industries in which employment has diminished most, it will be found that, as a rule, they are ones which have suffered from rapid and even sudden contraction of their markets. Ship and boat building, which was distinctly a war industry, alone accounts for over half the total drop in manufacturing employment between 1919 and 1925. There is an important group of industries, such as the manufacture of agricultural implements and fertilizers, in which diminished employment has been largely due to the agricultural depression. In another group—the manufacture of carriages, wagons, horse

[11] U. S. Bureau of Labor Statistics, *Handbook of Labor Statistics*, 1924-1926, p. 545.

[12] *Ibid.*, p. 545.

[13] E. E. Day and W. Thomas, "The Growth of Manufactures, 1899-1923," *Census Monographs*, VIII, 147, 202, 203.

blankets, fly nets, horse shoes, saddlery, harness, and whips—the drop has been due to the competition of the automobile. In another group—the manufacture of buttons, needles, pins, hooks and eyes, snap-fasteners, hair-pins, combs, and jewelry—it has been due largely to changing fashions. In still another group—the manufacture of cigar boxes, sewing machines, and sewing-machine cases and attachments—it has been due to changing social habits—the shift from cigars to cigarettes, and the use of ready-made instead of home-made garments. In all, there are at least twenty-three industries in which *a* major, if not *the* major, reason for the shrinkage of employment has been contraction of markets. The decrease of wage-earners in these industries between 1919 and 1925 was 486,000, roughly three-fourths of the total drop in factory employment.[14]

But the most serious objection to technical progress as an explanation of the present employment situation is that *in itself* it fails to explain anything. In the first place, there is no reason why labor-saving methods or machines must inevitably reduce the number of jobs. Suppose that the greater effectiveness of labor in an industry reduces the unit cost of production by $1.00. If the selling price of the commodity is reduced by the amount of the saving, the buyers will have just so much more to spend for other things. The demand for men in the particular industry may possibly shrink, but the total demand will not *necessarily* diminish, because the demand in other industries may increase. Essentially the same result occurs if the saving is

[14] These industries and the changes of employment in them are as follows:

	1919	*1923*	*1925*
Agricultural implements	54,368	30,962	28,696
Boots and shoes	211,049	225,216	206,992
Boxes, cigar	5,218	5,101	4,836
Buttons	15,577	11,860	11,513
Carriages, wagons, and sleighs	18,464	8,169	4,833
Carriage, wagon, and sleigh materials	6,509	1,983	1,389
Cars (steam and electric)	55,218	80,590	50,393
Cooperage	13,219	12,028	11,483
Fertilizers	26,296	18,572	19,644
Horse blankets, fly nets, and related industries	766	841	694
Horse shoes	744	255	193
Jewelry	30,871	26,354	23,837
Leather	72,476	59,703	53,043
Locomotives	26,715	30,672	12,809
Motorcycles, bicycles, and parts	10,886	6,576	4,193
Needles, pins, hooks, eyes, and snap fasteners	9,294	6,834	5,850
Phonographs	28,721	20,491	11,267
Saddlery and harness	10,411	6,617	4,570
Sewing machines, cases, and attachments	19,230	13,435	12,121
Ship and boat building	387,446	62,287	50,224
Whips	717	200	103
Windmills and mill towers	1,932	1,101	1,391
Wood engraving	235	141	117
	1,006,362	629,918	520,191

divided between the sellers and the consumers.[15] The basic fault with technical progress as an explanation of unemployment is that it overlooks the fact that unemployment is primarily a price phenomenon.[16] It is due either to the unwillingness of all job seekers to accept work at the existing compensation or to the unwillingness of employers to hire all the available labor at the prevailing rates. In other words, it is due to the fact that wages are either too low or too high.[17] It is not a new thing for men to be thrown out of work by machines and we gain little understanding of the present employment situation when we discover that this old and familiar cause is still operating. The question which we must answer is: "Why are not men absorbed into new jobs as rapidly as they are thrown out of old ones? Why does industry fail to absorb the available supply at existing wage rates?"[18]

[15] It should be observed, however, that when the consumer gains a dollar through a reduction in the price of the commodity or the enterpriser through an increase in profits, a new direction is given to the flow of money. The result may be either an increase or a decrease in the demand for labor, depending upon whether dollars, when spent in the new directions, are used more or less frequently to purchase labor. The recent technical changes, by decreasing the pay-rolls and increasing profits of many enterprises and by causing some prices to be cut, have profoundly altered both the flow of money and the demand for labor. But whether any specific technical change will increase or decrease employment cannot be determined in advance.

[16] Some unemployment, of course, may be explained by the fact that job seekers do not know of the jobs which are available. Most unemployment, however, is undoubtedly due either to the fact that there are not enough jobs at existing wage rates or to the fact that some workers do not care to work at existing wages.

[17] It is surprising that it has not been more generally recognized that unemployment *may be*, and to a significant extent probably *is*, produced by wages which are too low to be acceptable to many workmen. This fact emerges from the study of labor turnover. A man leaves a job at which he has been receiving $5.00 a day in order to hunt for one paying $6.00. For possibly a week he will accept nothing less than $6.00. As his funds diminish his reservation price falls. After a week's idleness, he may be willing to take $5.50. After two weeks, he may be ready to accept $5.00, and at that price he may promptly find work. For two weeks, however, he has been idle because his reservation price has been above the going rate. Unemployment of this kind is especially prevalent in times of rising prices and prosperity, when many jobs are vacant at the same time that many men are unemployed. Wage-earners' reservation prices are probably important in explaining the persistence of high wages in the face of falling prices since 1923.

[18] Another popular explanation of the falling or stationary employment in some branches of industry is the alleged restriction of production on the part of employers —a restriction motivated by the fact that greater profit can be made by selling a limited output at a high price and made possible by trade associations and other devices for creating concert of action. But this explanation obviously does not apply to either agriculture or railroading, which together account for over two-thirds of the total shrinkage in employment. Nor does it apply to bituminous coal mining which, from the standpoint of employment, is by far the most important of the mining industries. Some color is lent to the theory that during the last five years combinations of manufacturers have been unusually successful in limiting output by the fact that between 1919 and 1923 the physical output of factories increased by 28 per cent whereas between 1923 and 1926, the last big year of manufacturing, it increased only 6 per cent. In many important branches of manufacturing, however, competition has been notoriously severe. Furthermore, evidence of the limited success of efforts to restrict factory output is furnished by the decrease of about 7 per cent in non-agricultural wholesale prices between 1923 and 1927 and by the exceptionally high failure rate among manufacturing enterprises. In fact, the number of failures among manufacturers during each of the five years 1923 to 1927 was substantially greater than in 1921, the worst year of the depression. (*Statistical Abstract of the United States*, 1928, p. 315.)

My explanation of the falling or stationary employment in farming, manufacturing, railroading, and mining falls into two parts. The first is the reluctance of the public to increase its expenditures for the products of these branches of industry.

In 1927, the debits to individual accounts in the United States, according to the estimate of Professor M. A. Copeland, were approximately 41 per cent above 1923 and 35 per cent above 1920.[19] Debits in 140 cities exclusive of New York were 17 per cent above 1920 and 25 per cent above 1923.[20] In view of these figures, it is conservative to assume that the dollar expenditures of the country in 1927 were at least one-fifth more than in 1920 and one-fourth more than in 1923. But despite the growth in spending, the amount received by farmers, manufacturing enterprises, railroads, and mines for their output was approximately 22 per cent less in 1927 than in 1920 and about 1 per cent less than in 1923.[21]

The decreasing outlay for the products of farms, factories, railroads, and mines enables us to understand the relationship between the growing effectiveness of labor and the shrinkage of employment in these industries. Employment has diminished or has remained stationary, not simply because labor has become more productive, but because its

[19] *Journal of the American Statistical Association*, September 1928, XXIII, 303.

[20] *Commerce Yearbook*, 1928, I, 650.

[21] My estimates of the expenditures (in millions) are as follows:

	1920	*1923*	*1927*
Agricultural products (exclusive of crops fed to livestock)	$ 14,811	$12,382	$13,661
Manufactured goods	78,950	60,258	58,679
Railroad service	6,178	6,290	6,139
Mineral products	6,981	5,987	5,520
	$107,420	$84,917	$83,999

In making these estimates, I have used the gross operating revenues of railroads as reported to the Interstate Commerce Commission, the annual estimates of the value of mineral production, made by the United States Bureau of Mines, and the annual estimates of the value of agricultural production made by the United States Department of Agriculture. As the estimate for the value of agricultural output in 1927 was not yet available, it has been necessary to construct one. The estimates for 22 crops indicate that the total value of all crops in 1927 was $676,000,000 greater than in 1926. I have assumed that the production of livestock and the value of crops fed to livestock were the same in 1927 as in 1926. This makes the farm value of agricultural production in 1927 $676,000,000 above 1926. In view of the fact that there was a decrease in animals slaughtered from 17,245,000,000 lbs. in 1926 to 16,872,000,000 lbs. in 1927 (*Statistical Abstract of the United States*, 1928, p. 619) and that the farm prices of meat animals and poultry were substantially less in 1927 than in 1926 (*Ibid.*, p. 606), my estimate is undoubtedly too large. The value of factory output in 1923 is that reported by the census of manufactures. For 1920 I used the average of two estimates—one based upon the census of manufactures of 1919, the other upon the census of 1921. In each case, the value of factory production, as shown in the census, was corrected for the difference in the physical output of factories, as reflected in the index of the Federal Reserve Board, and for the difference in the price level as reflected in the level of wholesale prices of non-agricultural commodities. Basing the estimate upon the census of 1919 gave a value for 1920 of $76,500,000,000; and upon the census of 1921, of $81,400,000,000. The estimate of factory output in 1927 was based upon the census of 1925, corrected for changes in physical production and the price level.

growing effectiveness has been coupled with a pronounced reluctance on the part of the public to spend more for agricultural products, manufactured goods, minerals, and railroad service. Because of the state of demand, the growing effectiveness of labor has tended to displace men quite as much as to increase the total industrial output. Between 1923 and 1927, the physical output of farms increased less than 10 per cent, of factories less than 4 per cent, and of mines less than 2 per cent, and the output of railroads did not increase at all.[22] And even these modest increases have been forced upon the market only by price reductions—for between 1923 and 1927, the average price of non-agricultural products decreased by 7 per cent,[23] the price of mineral products by about 9 per cent,[24] the gross revenue per ton-mile of freight by 3 per cent, and the gross revenue per passenger-mile by 4 per cent. Agricultural prices alone have not declined—in wholesale markets they have remained almost stationary, rising by less than 1 per cent between 1923 and 1927. The average farm price of 30 commodities, however, fell about 3 per cent in the same period.[25]

These facts merit special attention. It has been frequently asserted during recent years that the output of industry has been outrunning the capacity of the public to purchase, and to this supposed condition has been attributed the recent displacement of labor. The downward trend of most prices might be regarded as evidence in support of the overproduction theory. But whatever may be the facts as to the nation's total output, the productivity of farms, factories, mines, and railroads has grown far more slowly since 1923 than during most of the first two decades of the century.[26] Furthermore, as we have seen, the physical output of farms, factories, mines, and railroads has grown far more slowly since 1920 than the country's expenditure of dollars, and the *value* output has been decreasing while the country's expendi-

[22] *Commerce Yearbook*, 1928, I, 2.

[23] *Monthly Labor Review*, March 1928, XXVI, 662.

[24] This is a rough estimate made by dividing the index of mineral production (*Commerce Yearbook*, 1928, I, 37) into the value of mineral output. (*Statistical Abstract of the United States*, 1928, p. 705.)

[25] *Commerce Yearbook*, 1928, I, 71 and 183.

[26] Between 1923 and 1928, the increase in factory output was less than during any of the census quinquennials between 1899 and 1919 except the quinquennial 1909-1914. Between 1899 and 1904, the increase was 22 per cent; between 1904 and 1909, 30 per cent; between 1909 and 1914, 6 per cent; and between 1914 and 1919, 26 per cent. (E. E. Day and W. Thomas, "The Growth of Manufactures, 1899-1923," *Census Monographs*, VIII, p. 34.) Thomas estimates that agricultural output increased 13 per cent during the period 1898-1900 to 1908-1910 and 19 per cent during the period 1908-1910 to 1918-1920 and the production of mines 90 per cent during the period 1898-1900 to 1908-1910 and 45 per cent during the period 1908-1910 to 1918-1920. (*American Economic Review, Supplement*, March 1928, XVIII, 124.) The output of railroad service increased as follows: 1899-1904, 43 per cent; 1904-1909, 27 per cent; 1909-1914, 27 per cent; 1914-1919, 29 per cent. (*Handbook of Labor Statistics*, 1924-1926, p. 556.)

tures have been rapidly growing. Clearly the shrinkage of employment in these four branches of industry has been due, not to the country's inability to purchase their production, but to the fact that the public has preferred to spend its additional dollars in new directions.

But the effects upon employment of the limited demand for the output of farms, factories, mines, and railroads have been more far-reaching than I have indicated. I have stressed the fact that it has been the *conjunction* of a more or less stationary demand for the products of certain branches of industry and the rapidly growing effectiveness of labor which has thrown men out of work. But this conjunction is not merely accidental. The very state of demand has led managers to strive more strenuously than usual to reduce expenses in the hope of gaining larger markets at a lower price level. In their searches for every possible way of cutting costs, they have discovered many ways of obtaining more output with fewer men. Consequently, not only has the state of the market been responsible for men's losing their jobs when technical progress has occurred but it has been an important cause for further technical improvement. But this is not all. The effectiveness of labor has continued to grow in a cumulative fashion. The fact that fewer men have been needed has enabled employers to avoid hiring many of the older and less efficient. The difficulty in obtaining employment has discouraged workers from leaving the jobs which they have held—the resignation rate among factory employees between 1920 and 1926 decreased by two-thirds.[27] This has meant more experienced and, as a rule, more efficient forces. Most important of all, the greater difficulty in obtaining jobs has led workers to improve their efficiency in order to avoid discharge.

The second part of my explanation of the shrinkage or stationary employment in farming, manufacturing, railroading, and mining is to be found in the movements of (1) wages, (2) the prices of producers' goods, and (3) long-time interest rates. All of these prices have fallen since 1920 but the relatively greater drop of producers' goods and interest rates has made it profitable for employers to shift to a combination of productive factors which involves the use of more capital and of less labor.

Between 1920 and 1927, factory wages, as represented by hourly earnings, decreased 6 per cent, the hourly earnings of railroad workers more than 6 per cent, and the wages of farm laborers over 26 per cent.[28] During the same period, hourly earnings in the manufacture and distribution of gas remained the same, in the generation and distribution

[27] *Handbook of Labor Statistics*, 1924-1926, p. 586.

[28] National Industrial Conference Board, *Wages in the United States, 1914-1927*, pp. 25, 94, and 83. This figure is for wages with board. Wages without board decreased slightly more than 25 per cent.

of electricity they increased 14 per cent, and in the building trades 15 per cent.[29] Ever since 1922, the general trend of wages has been upward. Between 1923 and 1927, the increase was over 5 per cent in manufacturing, nearly 5 per cent in railroading and farming, and nearly 15 per cent in the building trades.[30] The cost of producers' goods, on the other hand, dropped nearly 44 per cent between 1920 and 1927, and over 13 per cent between 1923 and 1927.[31] Finally, long-time interest rates, as indicated by bond yields, fell about 28 per cent between 1920 and 1927, and over 14 per cent between 1923 and 1927.[32] How great an incentive these price movements have given managers to use more capital and less labor is roughly indicated by the fact that the price of an hour's factory labor would purchase 67 per cent more producers' goods in 1927 than in 1920 and 21 per cent more than in 1923. And in 1927 the money for purchasing producers' goods could be borrowed for over one-fourth less than in 1920 and about one-seventh less than in 1923.[33]

It is, of course, true that employers, in deciding how to combine labor and capital, are guided by labor cost rather than wage rates, and that wage-earners, as I have pointed out, have substantially improved in personal efficiency during the last eight years. But even in manufacturing, where the effectiveness of labor has grown most rapidly, the output per worker increased only 36 per cent between 1920 and 1927, and much of this advance must be attributed to the labor-saving methods and machines which changing price-relationships have brought into use. In fact, it is safe to assume that the personal efficiency of factory workers increased less than 20 per cent between 1920 and 1927. But in 1927, as we have seen, the price of an hour's factory labor would purchase 67 per cent more producers' goods. And the improvement in the personal efficiency of labor, it is important to notice, has partly been made possible by hiring fewer men, for the drop of about

[29] *Ibid.*, pp. 53, 54, and 69.

[30] *Ibid.*, pp. 25, 94, and 83. In the case of manufacturing and railroading, the figures refer to hourly *earnings* rather than to wage *rates*. It is probable that wage rates changed much less than earnings. This is especially true of manufacturing where half of the wage-earners are piece or bonus workers.

[31] *Monthly Labor Review*, May 1927, XXIV, 1119, and March 1928, XXVI, 665.

[32] *Commerce Yearbook*, 1928, I, 660.

[33] In asserting that price movements are causing shrinkage of employment, I am not simply adopting another way of saying that new inventions are displacing men. Technical change might take the form of methods which require less capital and more labor. But the price movements of the last eight years have created an incentive for a particular kind of technical change; namely, methods of production which require relatively little labor. Behind the particular kind of technical change which has occurred are the price movements that have made this sort of change especially profitable. Furthermore, recent price movements make it profitable to displace labor even where new machinery has not been invented because they have made it advantageous to use the existing machines in situations where formerly it did not pay. Even had no labor-saving devices been invented, recent price movements alone would have caused the displacement of some workers.

10 per cent in factory employment since 1920 has enabled managers to dispense with the most inefficient workers.

It may be objected that the recent displacement of labor cannot be explained by the rise of wages relative to the prices of producers' goods because, except for several years during the war, this rise has been going on for a long time. Unfortunately the Federal Reserve Board's index of the prices of producers' goods goes back only to 1913. Professor P. H. Douglas, however, has constructed an index of the prices of manufactured goods for the period 1899 to 1922.[34] This may be used to make a rough estimate of the purchasing power of wages in terms of capital goods between 1899 and 1914.[35] In 1914, the hourly wage of the average factory worker would purchase 34 per cent more manufactured goods at wholesale than in 1899.[36] If price movements for most of the time since 1899 (and probably earlier) have given employers an incentive to use an increasing proportion of equipment and a decreasing proportion of labor, why has the displacement of men manifested itself only since about 1919 or 1920?

The answer to this objection is three-fold. In the first place, during the five years ending in 1919, price movements made it profitable to use a larger proportion of labor and a smaller proportion of capital. Consequently, when, after 1920, labor began to become more expensive relative to producers' goods, there was an unusually large number of workers whom it paid to discharge. In the second place, the rise in wages relative to the price of producers' goods has been unusually rapid since 1920. For example, during the eight years 1920 to 1927, the purchasing power of wages in terms of producers' goods increased nearly twice as much as the purchasing power of wages in terms of all manufactured goods during the fifteen years 1899 to 1914. In the third place, between 1899 and 1914 the tendency to use more capital and less labor was retarded by the rise in the interest rate. From 1920 until early in 1928, however, the shift to more capital and less labor has been accelerated by falling interest rates.

The rapid shift to a proportion of factors which involves less labor and more equipment is indicated by the change in the capacity of prime movers per wage earner. In railroading, for example, the tractive power of locomotives per employee increased 11 per cent between 1913 and 1920 but 35 per cent between 1920 and 1927.[37] In

[34] *American Economic Review, Supplement,* March 1928, XVIII, 162.

[35] During this period the rise in the price of manufactured goods was substantially less than the rise in the general level of wholesale prices.

[36] In making this estimate, I have used Professor P. H. Douglas' and Miss Lamberson's estimate of the hourly earnings of factory workers (*American Economic Review,* September 1921, XI, 421).

[37] The computations are based upon Class I roads only. *Commerce Yearbook,* 1928, I, 605, and the *Statistical Abstract of the United States,* 1928, p. 385.

manufacturing, the number of wage-earners and the amount of installed horsepower in the average factory have changed as follows:[38]

	Wage-earners	*Horsepower*	*Horsepower per wage-earner*
1914	39	126	3.2
1919	42	137	3.3
1923	45	169	3.8
1925	45	193	4.3

It will be observed that between 1914 and 1919 there was substantially no gain in the amount of installed power per wage-earner but that in the six years ending in 1925, it increased nearly one-third.[39]

In view of the rapid growth in debits to individual accounts, I have stated that it is conservative to estimate the increase in the nation's expenditures at not less than 20 per cent between 1920 and 1927 and 25 per cent between 1923 and 1927. But between 1920 and 1927, the general level of wholesale prices fell by about one-third and of retail prices, as indicated by the cost of living, by over one-sixth.[40] With dollar expenditures rising so rapidly and prices falling so rapidly, it seems impossible that enough new jobs should not have been created to absorb all of the workers displaced by shifts in demand and by the tendency of employers to use larger proportions of capital and smaller proportions of labor.

It is incontestable that there has been an extraordinarily rapid absorption of labor in new industries. But this absorption, remarkable as it has been, has been retarded (1) by the fact that price movements have led employers in nearly all industries to use relatively less labor and relatively more capital and (2) by the fact that the public is spending its additional dollars in ways which for the most part give less employment to labor than the old ones.

It is not, of course, inevitable that a change in price relationships which makes it profitable for employers to use relatively less labor and relatively more equipment will diminish the number of jobs in the

[38] Computed from data in the *Biennial Census of Manufactures*, 1925, p. 14.

[39] The indexes which Mr. C. R. Daugherty has constructed down to 1923 indicate that the horsepower of prime movers per wage earner in agriculture and mining has increased less rapidly subsequent to 1919 than between 1909 and 1919. (United States Geological Survey, "Power Capacity and Production in the United States," *Water-Supply Paper 579*, p. 54.) This result is not surprising—despite the price movements which make it profitable to substitute equipment for labor. In agriculture, the use of power grew very rapidly between 1909 and 1919 because farmers could afford to purchase power-equipment. Since 1920 the growth has been less rapid because farmers have been less able to purchase equipment. The figures for mining are affected by the peculiar conditions in the coal industry. There has been a rapid expansion of mining in new fields since 1920 but the men in the old fields have been driven from the industry very slowly. Their numbers help keep down the increase in installed power per wage earner.

[40] Mr. Carl Snyder's index of the general price level shows a drop of slightly more than 12 per cent between 1920 and 1925. (*Business Cycles and Business Measurements*, p. 287.) Mr. Snyder's index omits the prices of agricultural products at the farm. These prices represent an enormous volume of trade and their decrease was greater even than that of wholesale prices. On the other hand, the index also omits the prices of stocks and bonds—which have risen greatly.

community, because the changes in prices may so alter the distribution of income that there is a greater demand for goods in the making of which much labor is consumed and a smaller demand for goods in the making of which little labor is used. An advance in wages relative to other prices is most likely to diminish employment when the advance is absolute as well as relative and when it is accompanied by no increase in the total dollar expenditures of the community. But even in this case a shrinkage in employment is not *inevitable.* The effect depends upon whether higher wages cause employers to spend more or less for the complementary goods used with labor. If relatively higher wages lead employers to use both less labor and smaller quantities of the complementary goods and if the supply of the complementary goods is inelastic, the drop in the prices of the complementary goods will be large and many dollars will be released for expenditures in new directions. If the dollars thus released are spent in new ways which create a large amount of employment, as many men may be employed after the increase in wages as before. The result, of course, depends upon how the dollars released by the fall in the price of the complementary goods are used.

A rise in wages relative to other prices is much less likely to cause unemployment when it occurs as a result of a general price drop in which wages fall less than other prices and when the drop in prices is not accompanied by a decrease in the total dollar expenditures of the community. Under these circumstances, the drop in the prices of labor and of other goods releases a vast number of dollars for expenditures in new directions. It is entirely possible that the dollars released by the drop in prices will create jobs for all of the men displaced by the relative rise in wages.

The situation which I have just described is essentially the same as that which has developed since 1920, except that since 1920 (and especially since 1923) the total dollar expenditures of the nation have grown rapidly. Wholesale prices, however, have fallen and wages have become higher, in the main, because they have fallen less than other prices. It seems impossible that the relative rise in wages could displace more workers than could be absorbed by expansion of industry after the dollar expenditures of the country had increased one-fifth or one-third and the general level of wholesale prices had fallen nearly one-third. Nevertheless, the impossible has apparently occurred and it has occurred because the purchasing power which the public has gained through the increase in the number of dollars and the decrease in prices has been spent in ways that give relatively little employment to labor.

That money is being used in ways which cause a given outlay to set less labor in motion is indicated by the fact that employment has

grown far less rapidly than the expenditures of the country. The growth in population between 1920 and 1927 was less than 13 per cent and between 1923 and 1927, less than 8 per cent. Even if employment has grown as rapidly as population—which is doubtful—the increase would be far less than the increase in spending as indicated by debits.[41] This is especially true since 1923.

The failure of a given outlay of dollars to purchase as much labor in 1927 as in 1920 or 1923 cannot be explained by a rise in wages because the general wage level in 1927 was lower than in 1920 and less than 10 per cent higher than in 1923. It is explained primarily (1) by the tendency of dollars to be used less frequently for the purchase of labor and (2) by the fact that the public has not increased its purchases of the cheapest kinds of labor but has greatly increased its purchases of more expensive kinds.

Whether or not dollars are spent frequently for labor depends upon whether they are used to buy things in the production of which much or little labor is consumed.[42] During the last eight years, and especially during the last five years, the public has enormously increased its purchases of goods in the production of which little labor is required. Prominent among these things are stocks, land, life insurance, and telephone service. Some labor is, of course, needed to effect the transfer of a share of stock or a parcel of land and, therefore, some of the dollars which the broker receives must be spent the next time for labor. But obviously the amount of labor required to transfer a $10,000 block of stock or a $10,000 parcel of land is exceedingly small in relation to the purchase price. Consequently enormous increases in stock or real estate speculation are the immediate causes for relatively little increases in employment.[43] How great has been the increase in expenditures for stocks is indicated by the fact that the number of shares sold on the New York exchange in 1927 was more than double the number in either 1920 or 1923 and by the further fact that the average daily closing prices of fifty stocks, half rails and half industrials, averaged about

[41] The most convincing reason for believing that employment has increased less rapidly than population is the extremely rapid increase in the students in secondary schools and colleges. Between 1920 and 1926 the increase was 2,076,061, or approximately 67 per cent. (*Statistical Abstract of the United States*, 1928, p. 14.) To some extent, the increase of students in secondary schools and colleges may have been counteracted by a growing tendency of women to enter industry.

[42] Obviously if the labor cost of making an article or of rendering a service is high relative to the selling price, a large part of the dollars received for it must be spent the next time for wages. But if the labor cost of the article or service is relatively low, there is less probability that any dollar derived from its sale will be used the next time in the purchase of labor. Other things being equal, therefore, money will be spent for labor more frequently and a given outlay of dollars will create more employment when it is used for goods in the making of which large quantities of labor are consumed.

[43] But the profits realized in a strong bull market may stimulate purchasing in many directions and thus indirectly increase employment—at least temporarily. Widespread losses inflicted by a general drop in stock prices have, of course, the opposite effect.

twice as high in 1927 as in 1920 or 1923.[44] The enormous expansion of real estate purchases is reflected in the growth of 46 per cent in the number of transfers in forty-one cities between 1920 and 1925.[45] The premiums of life insurance companies increased nearly 90 per cent between 1920 and 1926,[46] and the gross revenues of the American Telephone and Telegraph Company increased about 100 per cent between 1920 and 1927 and 62 per cent between 1922 and 1927 but the number of employees increased only 34 per cent.[47]

Possibly more important than the tendency of the public to buy things in the making of which little labor is used, has been its tendency to shift from the purchase of cheap labor to the purchase of expensive. Among the very lowest paid workers in the country are the farmers and farm laborers. The estimates of the Department of Agriculture indicate that in 1925-1926 the net pecuniary income of the average farm family was only $483. A deduction of interest at 4.5 per cent on the value of the owner's equity in his farm leaves a reward of only $262 for the labor of the farmer and his family.[48] The average monthly compensation of agricultural laborers in 1927 was $48.63 without board and $34.58 with board.[49] In refusing to make large increases in its purchases of agricultural products, therefore, the public has limited its demand for probably the cheapest varieties of male labor in the country. On the other hand, the public has enormously increased its purchases of relatively expensive kinds of labor such as professional services and the services of automobile repairmen and of building tradesmen. Hourly wages in the building trades, for example, are approximately twice the average hourly earnings of factory workers.[50] Between 1920 and 1927, however, the

[44] *Commerce Yearbook*, 1928, I, 659-660. The increase in stock purchased is also indicated by the growth of 64 per cent in debits to accounts in New York City banks between 1923 and 1927 as against 25 per cent in 140 other cities. It should be observed, however, that many of the dollars which are spent for stocks would not be available to the same spenders except for the purchase of stock because the dollars are created by loans that are secured by the purchased stock. In other words, the public has additional dollars to use only on condition that it spends them for stocks. This is important because it indicates the limited possibility of increasing the volume of employment by changing the direction in which dollars are spent.

[45] Carl Snyder, *Business Cycles and Business Measurements*, p. 277.

[46] *Statistical Abstract of the United States*, 1928, p. 300.

[47] *Ibid.*, p. 354.

[48] Computed from data in *The Yearbook of Agriculture*, 1926, pp. 443-446. In computing the net income deduction is made for expenditures for feed, seed, fertilizer, harness, hired labor, upkeep, rent, interest on indebtedness, and taxes. If we were attempting to measure the well-being of the farmer rather than his cash income, it would be necessary to take account of the food and fuel consumed on the farm which, according to the Department's estimates, increased the value of the net income to $879 and of the reward for labor and management to $648.

[49] *Statistical Abstract of the United States*, 1928, p. 196.

[50] National Industrial Conference Board, *Wages in the United States*, 1914-1927, pp. 25 and 66. The figure for building workers is the average of seventeen occupations in twenty-three cities; for factory workers, the average for twenty-five industries. It is significant also that between 1923 and 1927, wages in the building trades increased over 20 per cent. (*Ibid.*, p. 69.)

outlay for building construction more than doubled and between 1923 and 1927 it increased 56 per cent.[51]

The explanation of the existing employment situation which I have presented may be summarized as follows: It is not labor-saving methods alone which are throwing men out of work in farming, manufacturing, and railroading, and preventing an increase of employment in mining. Rather it is a combination of circumstances, none of which *alone* would necessarily produce displacement. There has been rapid technical progress in some branches of industry from which the public has been willing to purchase little more product. There has been an enormously increased demand for many things in the making of which little labor is consumed. The proper movement of prices would have prevented these rapid changes in markets and in technique from diminishing the number of jobs. But price movements have apparently failed to do this. On the contrary, the rapid rise in wages relative to other prices has tended to aggravate the effects of market shifts and technical advance by making it profitable for employers to use more capital and less labor.

Two facts stand out conspicuously in this explanation: (1) the tremendous influence of changes in the ways that money is spent upon the volume of employment; and (2) the apparent failure of wages to be affected by the failure of the demand for labor to keep pace with the supply. The persistent rise of wages since 1923—a period during which human services have been losing out in competition with other commodities for the money of the public and during which non-agricultural wholesale prices and the value of crops on the farm have been falling—deserve special attention. Surely it is one of the most extraordinary economic phenomena of the day. It is the more remarkable because the cost of living has been substantially stationary, trade union membership has not increased, and the number of strikes and the rate of labor turnover have greatly diminished.

A complete theory of the existing employment situation should include an explanation of the recent advance in wages. Time, however, does not permit this. In the case of the building trades and the railroads, the rise is largely attributable to the power of trade unions. In the case of agriculture, it is in part attributable to a shortage produced by the unusually large migration to the cities and in part to the increasing use of power-driven machinery which makes it profitable for farmers to use a better grade of labor. In the case of manufacturing, the advance in hourly earnings has probably been caused, in the main, by a greater *yield* of piece rates and by the use of a smaller proportion of unskilled men rather than by an increase in rates. But

[51] *Commerce Yearbook*, 1928, I, 324.

even here it is necessary to explain why wages have not decreased in the face of falling prices and a diminishing need for factory workers. The explanation is to be found partly in the wage advances in other branches of industry and in the rapidly growing physical productivity of factory labor. Especially important is the fact that many employers have become more interested in having a low rate of turnover and a high state of morale among their men than in paying the lowest wages which the market makes possible. Helped by the low rate of turnover of the last six or seven years, many enterprises have created forces of experienced and carefully trained specialists. But the more highly men are trained, the less economical it becomes to reduce wages simply because there are not sufficient workers of the general type desired. Furthermore, the efficiency of these carefully trained forces depends to an unusual degree upon their willingness to do their best, and managers fear that wage cuts, by diminishing this willingness, would cost more than they would save. Finally, wages in manufacturing have probably been affected by the fact that, at a time when the capacity of factories is tending to outrun the demand for goods and when prices are falling, stationary wages enable the concerns with a low labor consumption per unit of output to undersell old and inefficient enterprises, and thus capture the markets.[52] And the establishments which benefit most from relatively high wages are likely to be the largest and most important in the industry, the ones which are expected to lead in initiating wage changes.

Several of these influences upon wage rates, be it noted, are significant from the standpoint of the theory of unemployment. Wages have always been notoriously slow to respond to changes in supply and demand. Consequently wage changes have always been defective as a device for preventing unemployment. Now it appears that recent changes in the labor market and in personnel policies in conjunction with the competitive situation created by falling prices are making wages less responsive than ever to decreases in the demand for labor.

What light, if any, does this analysis of employment changes shed

[52] That the policy of maintaining high wages in the face of falling prices has enabled some plants rapidly to force others out of business is indicated by the decrease in the number of manufacturing establishments subsequent to 1919 and the increase in the failure rate. Until 1919, the number of factories in the United States was growing. Between 1899 and 1914, the increase was about 33 per cent, and between 1914 and 1919 about 21 per cent. Between 1919 and 1925, however, the number of manufacturing plants decreased about 12 per cent. The average number of factories in the United States during the quinquennial 1923 to 1927 was about 25 per cent more than during the quinquennial ending in 1909, 20 per cent more than during the quinquennial ending in 1914, and 10 per cent less than during the quinquennial ending in 1919. Failures, however, were 75 per cent more than the quinquennial ending in 1909, 35 per cent more than the quinquennial ending in 1914, and 29 per cent more than during the quinquennial ending in 1919. (*Dun's Review*, January 8, 1927, XXXV, 26.)

upon the various proposals for reducing or relieving unemployment? One of the most popular suggestions has been the forward planning of public works and the expansion of public construction as unemployment grows. The proposal has ordinarily been made as a remedy for *cyclical* unemployment. Its desirability as a remedy for that particular kind of unemployment is not here in question. But would it be a feasible remedy for the *secular* unemployment which has apparently developed during the last seven or eight years? If unemployment has grown because prices, especially wages, have failed to adjust themselves to shifts in markets or to changes in technique, might not the expansion of public works be exactly the wrong kind of relief? Might it not tend to perpetuate the very price relationships which are causing the trouble?

On the other hand, the existing employment situation appears to be precisely the sort in which a well-conducted, nation-wide system of public employment exchanges could do much good. The situation is characterized less by a change in the *number* of jobs than by a change in the *kind* and the *location* of jobs. Quantitatively the total volume of employment has grown almost, if not fully, as rapidly as the employable population. But occupational and regional shifts of almost revolutionary character are occurring.[53] Such sudden changes naturally tend to produce an unusually large number of maladjusted workers. In assisting members of the shrinking occupations to find suitable jobs in the expanding ones, public employment offices, if competently managed, could perform a most important service.

[53] About six-sevenths of the drop in factory employment between 1919 and 1923 and about four-fifths of the drop between 1923 and 1925 occurred in the New England and the Middle Atlantic states.

SOME OBSERVATIONS ON UNEMPLOYMENT INSURANCE

By Leo Wolman

National Bureau of Economic Research

In dealing with the problem of unemployment, economic discussion lags considerably behind economic practice. The pressure of distress, on the one hand, and the slow accumulation of the facts, on the other, often force action long before the consequences of such action have been analyzed and weighed. This is the contemporary situation with regard to the phenomena of the displacement of labor by machinery and of unemployment insurance in all its many varieties.

The controversy which raged a while ago over the measurement of the volume of unemployment in 1927 will, in my judgment, not be resolved for many years to come. Whether the unemployment of 1927 or of 1924 was technological unemployment, due to the displacement of men by machines, or the lay-off that accompanies mild business recession, or the prolongation of the ordinary periods of seasonal unemployment are questions that will be answered only with the accumulation of more and better statistical materials than we now have. For the moment the significant fact is that economic science, whether through the inadequacy of its analytical apparatus or the sheer lack of data is not yet qualified to forecast the course and magnitude of future unemployment in this country.

Meanwhile the responsible leaders of industry and of the community are moved by the existence of a persistent volume of unemployment and by the fear of a rising tide of idleness in the future to examine measures of relief and prevention. The pioneers among them have already gone so far as to adopt plans of unemployment insurance and of business stabilization. In point of actual experience with unemployment, we have travelled a considerable distance in the past decade. The time would now seem to be ripe to dissect this short experience of ours and the much longer and elaborate experiment in England; and to draw from both some highly tentative reflections on the principles and methods of unemployment insurance and industrial regularization.

Short and slight as has been the American experience with unemployment insurance, it has already developed characteristic features. It is entirely voluntary and is limited either to single industries or even establishments. It is not part of an elaborate national system of unemployment insurance and covers at this time no more than

250,000 persons. There are, accordingly, no state contributions to the unemployment fund. The cost is borne by contributions from the business or, as in the clothing industry, by joint contributions from the workers and from the firm.

Under such arrangements, no one naturally takes responsibility for the total labor market. Such obligations as they are, are limited to the employees of a single firm, or to the employees of a market or locality, within a single industry. Thus in the men's clothing industry the insurance coverage is by clothing markets, the system now being in force in the markets of Chicago, New York, and Rochester, while the other clothing centers of the country are still uninsured.

As these American plans now work, no provision is made for what might be called the labor surplus, or groups of unemployed who are for the time being attached to no industry. The responsibility, moreover, which an industry or plant assumes for its own employees is a changing one and allows for continuous, substantial, and permanent contractions in their pay-roll. In some respects, indeed, this type of insurance may be said to facilitate the mobility of labor, or, at least, not to interfere with it.

Unemployment insurance in the men's clothing industry of Chicago, for example, began in May, 1923. Benefits have now been paid for five whole years at the average rate of roughly three-quarters of a million dollars a year. But during this whole period there has been a steady drop in the numbers attached in the industry, attributable in very large measure to the introduction of machinery, the subdivision and simplification of processes, and the removal of restrictions of output; in short, to a great rise in per capita output.

Here, as elsewhere, unemployment insurance has come to be associated with another device that may for brevity be called the discharge wage, whereby workers who are permanently dropped from the pay-roll receive on discharge either a lump sum or an income for a limited period of weeks. In either event insurance payments cease once these contractual obligations are met. In Chicago, again, discharge wages running as high as $500 per person, in the case of highly skilled workers, have been paid in small part out of the insurance fund and for the rest directly by the employer, as the result of arrangements between him and the union.

Where then unemployment insurance functions as it does in the men's clothing industry, by contract between the union and the industry, or in an individual company, by provision of the employer, it appears to serve two simple, but useful, purposes. It first seeks to protect the standards of income of limited groups of workers against reduction, either through seasonal or cyclical unemployment; and it

also, where the measure of the discharge wage is used, attempts to give some support to a discharged worker while he is hunting a job somewhere else. It does not permanently attach an employee to a specific industry or job by supporting him during an unlimited period.

It requires only a cursory examination of the American industrial situation since 1922 to conclude that any obstruction to the free movement of labor within the country might easily have produced a depression of major proportions. While there is still a wide difference of opinion among students of the question regarding the amount of absorption that has actually been achieved, no one can doubt that it surpassed the expectations and forecasts of most of us. It is certainly impossible to explain the levels of business activity of the years 1923, 1926, and 1928 without assuming that the millions who were released since 1919 from the manufacturing, transportation, and coal mining industries had since, in large part, found employment elsewhere.

All of this, obviously, stands in sharp contrast to the English situation. By this I do not mean to say that the divergent course of American and English business since the war is, in whole or in part, to be explained by the English adherence to a universal system of unemployment insurance; but only that certain fundamental features of the English scheme have probably acted to retard the revival of English industry and to conceal at least some of the forces that contribute to business revival.

To these conclusions I am driven with great reluctance. The formal administration of the English system of unemployment insurance is one of the most efficient jobs of administration that it has ever been my good fortune to observe; and the fidelity and skill of the personnel associated with it is a tribute to the excellence of the English civil service and to the public spirit of English citizens. The difficulties lie, as I see them, in the basic principles of the system and in the administrative practises that grow out of these principles.

It is impossible, within the limits of this brief discussion, to do more than mention those few features of the English plan which deserve critical scrutiny. No national system of unemployment insurance is conceivable unless it has associated with it an adequate agency for the placement of unemployed labor. The closer such an agency is to the total employment situation, the greater its equipment for finding jobs and for moving labor from one place to another, and the freer it is to perform this function, so much the more valuable is likely to be its contribution to the successful working out of the unemployment insurance. If, on the other hand, the placement bureaus or employment exchanges are burdened with other duties, such as the payment of

unemployment benefits, and play, moreover, an important role in determining the eligibility of applicants for benefit, their service as employment agencies is bound to be seriously impaired. It is implicit in the highly centralized administration of the English unemployment insurance that the employment exchanges, whose primary function should be the discovery of jobs and sending workingmen to them, are occupied with administrative duties of quite a different nature. The executive job of paying benefits weekly to an average of one million unemployed persons not only leaves little time for other things but may also create a state of mind not conducive to the full exploitation of the available avenues of employment.

Closely connected with this phase of the administration of unemployment insurance is the matter of the definition of unemployment. Here there has proved to be an almost unlimited field for the exercise of intellectual ingenuity. Very much as in the practice of industrial arbitration, remote and more or less hidden consequences are overlooked in the settlement of immediate issues. Some formal and generalized definition of unemployment will be required in any system of unemployment insurance. But once the system of definitions becomes rigid and insensitive to industrial change, the resultant administrative practice will be forced to add to the unemployment which it is created to relieve and reduce.

If we may judge by the American experience of the past years, we must look forward to a progressively changing industry, marked by the successive disintegration of old crafts and their replacement by the new. To have placed insurmountable obstacles in the way of this development, would have resulted in seriously handicapping the prosperity of both new and old industries in the United States. Where there is control over industry, wise social policy and practice would consist in breaking the fall, so to speak, or in prolonging the period of transition so as to give those who suffer from the change the time and the opportunity to adjust themselves to the new state of affairs. But it can readily be seen with what rare insight and acumen and political skill those charged with the administration of such devices must be endowed.

Yet it is, in my judgment, precisely at this point that the administration of unemployment insurance encounters its most critical difficulties. The elaborate rules and practices that have grown up in the English system around the notion of suitable employment, wherein eligibility to benefit turns on the availability of almost the right kind of a job, are bound in the long run, to delay or obstruct that free absorption of labor which is a prerequisite to business activity. It

would seem to me to be doing no violence to the record of experience to say that the successful management of widespread systems of unemployment insurance involve, in modern industrial countries, complete overhauling of the doctrine of suitable employment and of its corollaries.

A problem much more puzzling arises out of the practice of paying unemployment benefits greatly in excess of the limits set in the original Act. The cause of this practice is, of course, the general unemployment in the country and the distress of the unemployed. The payment of extended benefits, made possible by borrowings from the government, has without doubt had the effect of confusing the character and purpose of the unemployment insurance and of importing to it more of the aspect of poor relief than it can afford to have. The device of extended benefit, and the procedure of more or less arbitrary definition of unemployment, would seem to join in perpetuating the existence of areas of unemployed labor.

These observations on the English experience are not at all designed to minimize the great human suffering that is the price of unemployment, of whatever character, nor to absolve the community and industry from the duty of assuming their share of these burdens. My sole purpose is to draw from the experience of the past adequate safeguards for the future. In a sense, we are now at the beginning of our thinking on unemployment insurance and at that stage we cannot afford to regard the plans now in operation as much more than the most tentative and elementary experiments.

In the present state of the unemployment problem in the United States, the most pressing need is for a highly co-ordinated chain of public employment exchanges that would be in the position to make the maximum use of all the opportunities for employment there are. Such slight information as we have regarding recent unemployment indicates that the time required to pass from one job to another might be appreciably reduced, if the public could be persuaded to assume this function that is so peculiarly its own. It is not within the province of a single industry, and certainly not of a single establishment, to undertake that organization of the national labor market which is involved in the creation of a centralized or regional system of employment exchanges. The task obviously, also, ought not to be left to the poorly equipped and often mercenary private employment agency. The smooth working of the labor market is the direct and pre-eminent concern of all American industry since the clogging of the market has its pervasive and universal effects. Expertly staffed, as they may so easily

become at the insistence of industry, the employment agencies should be among the most productive of our public investments.

Whatever the ideal American program of unemployment insurance may finally be, the probabilities are that it is now moving strongly in the direction of insurance by industry. Even in the event of compulsory insurance it is unlikely that the State would undertake the functions of direct administration. Its part would consist in exercising supervision and in formulating the broad principles of the plan. Whether the insurance premiums would vary from industry to industry or would take the form of a national compulsory minimum is of less importance than that most of the management of the scheme would fall upon the machinery set up for this purpose by each industry. Such administrative decentralization should be expected to make for continuous and careful canvass of the practicability of regularization. While it would appear to be impracticable to remove the employment agencies completely from the administration of the insurance, their activity could, in this respect, be considerably curtailed.

There is no concealing the fact that the progress made toward the general adoption of unemployment insurance through private initiative has, in this country, been disappointing. The most ambitious plan, that in the men's clothing industry which now covers some sixty thousand workers, came as the result of collective bargaining between the industry and the union. For the rest, there is only a scattering of firms whose number is growing very slowly indeed. Although American industry has suffered no violent depression since 1921, the business recessions and the increased unemployment of 1924 and 1927 were sufficiently serious to challenge the attention and constructive thought of American business. At the same time the current displacement of labor by changing methods of production, whether it leads to temporary or permanent unemployment, invites the adoption of measures of relief and prevention. If we may judge by past experience, compulsory action is as inevitable here as it appears to have been in the industrial states of Europe.

When the adoption of a general plan of unemployment insurance becomes a practical issue in this country, we must be prepared to meet the type of problem I have just discussed. Under the most favorable circumstances, the sound operation of unemployment insurance seems to be among the most puzzling and difficult of the problems of social administration. In the United States where we have so recently had the opportunity of observing the swift changes in the technic of industry and in its geographical location, we are peculiarly alive to the possible effects of measures that may slacken the pace of industry.

Where the continuance of business activity has seemed to be so largely the product of the rise of new industries and of the remaking of the old, some hesitancy in choosing from among the many proposals of solution is not only natural but perhaps even desirable. Unemployment insurance, looked at in one way, is a method for equitably distributing through the whole of the population some of the costs of industrial progress. The task before those who will undertake to write the unemployment insurance acts of this country will be to distribute these costs without retarding the progress of industry.

UNEMPLOYMENT—DISCUSSION

ISADOR LUBIN.—Dr. Slichter has attempted to explain present unemployment by two factors. The first is a reluctance on the part of the public to increase its expenditures for agricultural commodities, products of mines, and the services of railroads, and a disposition to spend money in directions which apparently give less employment than when spent for the output of farms, factories, mines, and railroads. The second part of his explanation centers in the fact that the course of non-agricultural wholesale prices, long-time interest rates and wages have, since 1920, made it generally profitable for employers to shift to a combination of productive factors which involves the use of more capital and less labor.

The first argument is developed by making reference to the shift in expenditures on the part of the American public during recent years. Dr. Slichter points to large investments in life insurance, to land purchases, and to the tremendous increase in the value of building construction during the four years ending 1927 as evidence of the fact that we are spending our money on goods and services which require the use of relatively little labor. It is questionable whether one can conclusively prove that the type of commodities being bought by consumers today require less labor per dollar of expenditure than in former years. I have the impression that every dollar spent on radios and automobiles employs relatively as much labor as would be the case if we had continued our purchase of wagons, pianos, and parlor stoves. Indeed, I believe that it could be shown that more labor is consumed when we purchase a radio and its manifold accessories than in the purchase of other "older" commodities selling at corresponding prices. Nor am I convinced that the American people are investing more money in land than in the past. A mere reference to the land boom of 1920 when the entire agricultural population of the country was buying and selling real estate raises a doubt as to how abnormal the volume of land purchases during the last few years has been. As regards building construction, one can hardly point to any other time in history when the services of more laborers were being consumed than at the present time.

It appears that Dr. Slichter has the impression that because wage rates in the building trades are higher than in most other trades the money spent for building construction consumes less labor than if spent on commodities produced by industries which pay lower wage rates. I take issue with him on this fact. It would be hard to prove, for example, that lower wages in the building trades would have resulted in more construction and consequently the employment of more labor. Indeed, the number of laborers employed in the building trades during the past few years more than equals anything which has ever been known in this country.

Similarly, it is doubtful whether more money spent on agricultural products would have resulted in more labor being employed on the farms. The

fact that agricultural wages are lower than in other trades does not necessarily mean that we would be consuming much more labor if we increased our consumption of farm products. An increase in agricultural output would not necessarily mean anything like a proportionate increase in labor employed. Indeed, it is probable that the additional demand for labor would be smaller than that which would occur if we increased our consumption of the products of the "newer industries" to which we have been shifting our demand. The same would apply to railroad transportation where radical technical changes have been taking place in recent years. In view of the greater efficiency of our transportation system, an increase in our demand for railroad services could easily be taken care of without necessarily increasing to any large degree the amount of labor service utilized. I believe that a good case could be developed to show that the decreased demand for railroad services has, in a way, increased the demand for labor. We have been shifting from the use of railroads to the use of motor trucks, particularly for short hauls, and it is very likely that every hundred ton miles of truck transportation consumes relatively more labor than do the older methods.

It is doubtful whether Dr. Slichter's second argument, i. e., that the high wages, low interest rates, and low non-agricultural prices which have characterized the past few years have made more advantageous than otherwise the use of machinery can be logically sustained. In proving this point he makes use of the earnings of labor, which, I believe, is an unjustifiable procedure. I do not feel that one can use the earnings of labor as the criterion of whether or not it is advantageous to use more or less machinery. The entrepreneur in making a decision as to whether he shall take on more labor or install a new machine is guided by one factor; namely, the labor costs per unit of output. Irrespective of the *earnings* of the workers, if the labor costs per unit of output can be lowered by taking on more employees, he will do so. As regards the argument that the amount of money which would purchase the same amount of factory labor in 1927 as in 1920 would purchase 48 per cent more non-agricultural commodities in 1927 than in 1920, the same criticism applies. The amount of labor which could be purchased cannot be determined by the number of workers who could be secured at given wage rates. It must be approached rather by measuring the *actual labor power* that can be purchased today at a given wage rate as compared with 1920.

Nor was the fact that the capital with which to purchase equipment could be borrowed about one-fourth more cheaply in 1927 than in 1920 necessarily a determining factor in making decisions as to whether more labor or more machines should be employed by industry. Just how much difference did the fall in interest rates from 8 per cent in 1920 to 6 per cent in 1927 have upon the cost of producing a package of chewing gum or any other commodity which is produced by large scale methods? It would be interesting to secure evidence as to just how much of the total cost of an automobile, for example, is to be attributed to the interest charges on the capital used in its production. Off hand, I should venture to guess

that as compared with other costs that are involved in production it would be a minor factor for each unit of output.

Now as to the vital question which Mr. Slichter raises: Why is labor not being absorbed? I think that the answer to that question is that labor is being absorbed to a considerable degree. The widespread unemployment of 1927-28 was due in most part to the lag which was the result of an industrial depression. As evidenced by our production indexes, the latter part of 1927 was a recession period. If we are to explain the lag in labor absorption for that period we must turn for an answer, not to the changing habits of the American people, but rather to the periodic business depressions which characterize modern industry.

B. M. Squires.—Mr. Slichter has presented some interesting data as to production, prices, and employment. His deductions follow generally accepted economic reasoning. A restatement of his thesis affords the best basis for comment.

Since 1919 or 1920, the number of factory, railroad, and agricultural workers has decreased by more than 1,800,000, and the number of mine workers has been about stationary. This drop in employment has been in the face of a substantial increase in the output of these industries (though since 1923 the increase has been modest, with no increase in the output of railroads), a rapid increase in dollar expenditures (for all goods and services), and an increase in the population of the country by more than twelve million. More is being spent for manufactured goods, mineral products, and agricultural commodities (less for railroad service), but expenditures for these commodities or services have not begun to keep pace with dollar expenditures generally, and little or no more has been received by the owners of factories, mines, and railroads, and less by farm owners. "And even the modest increases [in expenditures for these products] which have occurred since 1923 have been forced upon the market only by price reductions."

In passing, Mr. Slichter accepts the corollary that the same or increased output in these industries with fewer workers means an increased output per worker. But he questions the correctness of the explanation that the shrinkage in employment is due to increased efficiency either on the part of labor or because of technological change. For one thing, he finds that in many industries the increase in output per worker is less than for the decade ending 1920. Moreover, a number of industries showing the greatest increase in labor output have had the least drop or an actual increase in employment. In other industries the shrinkage appears to have been due to a natural contraction of the market.

What seems to concern Mr. Slichter most is not the shrinkage of employment in these industries. After all, social habits change, industries waste away, substitution has always been a factor, a change in one industry may affect employment in another. Even the notion, however fallacious, of technological unemployment is not of great moment in itself, for doubtless prices would be lower, more goods would be bought, or purchasing power

would be released and directed to other commodities, which would increase the demand for labor and hasten its reabsorption.

The disturbing thing is that dollar expenditures are increasing without affording employment to workers displaced in certain industries. This is quite unorthodox, and leads Mr. Slichter to ask: "Why are not men absorbed into new jobs as rapidly as they are thrown out of old ones?" and "Why does industry fail to absorb the available supply at existing wage rates?"

In raising these questions Mr. Slichter assumes that for the country as a whole unemployment has increased, though he admits lack of proof as to the extent of unemployment or whether it has increased, and that workers displaced in a given industry are not absorbed by other industries, though here again he admits lack of information as to how many workers displaced in agriculture, factories, and railroads have found other employment.

The answers to the questions are a bit disappointing and incomplete. "Unemployment is essentially a price phenomenon. . . . It is due to the fact that wages are either too low or too high." Mr. Slichter is inclined to feel that too little attention has been given to unemployment resulting from the temporary unwillingness of workmen to accept a wage lower than a figure fixed upon when they begin to seek employment. He regards workers' "reservation prices" as especially important in times of rising prices. Of course, there are no facts bearing on this.

The key to the situation appears to Mr. Slichter to be that dollars are being expended for goods and services requiring a smaller outlay for labor than in the case of the products of mines, farms, and railroads. "The amount of employment which a dollar gives depends upon how it is spent." There is "the apparent reluctance of the public to increase its expenditures for agricultural commodities, the products of mines, and railroad service and its disposition to spend money in directions which apparently give less employment."

Why habits of consumption have changed is not revealed. "Changing price relationships have altered the proportions of which factors of production can be most profitably combined." A given amount of money will purchase relatively a much larger amount of capital equipment than of labor, hence the shift of production wherever possible to plants which use the least labor and the change to methods of production which involve the use of least labor. From this it might be inferred that the consumer's tastes have been intentionally stimulated in the direction of those things which can be produced with the least or a lesser amount of labor. Either this, or there has been an effective strike of consumers against high labor cost products even in the face of declining prices.

Passing now to Mr. Wolman's paper, I am entirely in accord with his re-emphasis of the need for a chain of highly co-ordinated public employment offices. Such offices should be aggressive seekers of opportunities for applicants and should be able to direct labor to new channels of employment. I agree as to the need for a system of unemployment insurance and that in so far as any tendency toward it has been manifested in this country it has been in the direction of insurance by industry. I would add that I

doubt whether we can ever hope to secure complete information about the unemployed without insurance as an incentive to registration.

The criticism of the British unemployment insurance plan on the ground that it makes for a lag in the placement of workers thrown out of jobs is probably valid. It is axiomatic that workers dislike to change location or jobs, and the British worker particularly is instinctively rooted to one place. The payment of unemployment insurance benefits may encourage the worker, and make it possible for him to hold out for employment in the same industry in the same locality. But the alternative suggested, of insurance by industry, means either a leaving wage sufficient to carry the worker to the next job, or that he is stranded and in the care of some relief agency. I might prefer insurance by industry, if adequate provision could be made to meet the common responsibility of taking care of those unable to find jobs. Doubtless a worker will accept any job the more quickly if he faces starvation, but this seems quite ruthless in an humanitarian age. Following the same doctrine, it would be better to put all relief agencies out of business.

Criticism of the British plan on the ground that the exchanges have been overburdened, or that the fund has become bankrupt through extended payments in excess of the limits originally set, or that the interpretation of suitable employment has obstructed or delayed the free absorption of labor seem to me to be a bit remote. Responsibility for the administration of the insurance act was placed on the exchanges in the interest of economy and expediency. It is an administrative detail and not the essence of the Act, though I am inclined to favor joint administration. The borrowings from the government to increase and to extend the payments is a matter of administrative judgment. There is no assurance that private industry would do differently when faced with an emergency unless the principle is accepted of letting the displaced worker shift for himself. In the men's clothing industry benefit rules have been modified a number of times to prevent bankruptcy of the funds as well as to provide for a reserve.

As for a definition of unemployment or suitable employment, it may be asserted that in most of the decisions on this point the emphasis has been on flexibility. After the first pangs of readjustment and reabsorption the tendency has been to require workers to accept jobs whether they liked them or not, or forego benefits. The statement, "We think that the worker should accept the job in view of the time he has been unemployed," appears frequently in decisions subsequent to 1922. Moreover, in the administration of social legislation, as in the administration of trade agreements, rigid adherence to law and precedent may defeat their purpose.

The most outstanding fact about unemployment in the United States is the lack of information concerning it. This holds true not only as to the extent of unemployment, but also as to its nature and causes. Next in significance is the fact that in spite of recurring depressions, accompanied by what appears to be widespread unemployment, little advance has been made toward a continuous inventory of labor.

The only agency in position to keep such an inventory is the government,

but the government has not seen fit to do it. Even in the matter of employment offices the extensive organization built up during the war was reduced to a mere skeleton shortly after the armistice through lack of appropriation. In one of the most casual of industries, longshoring, the Shipping Board in 1920 refused to join private shipping interests and the International Longshoremen's Association in a program of registration and clearing centers, with the result that the program was abandoned. Yet in the case of employment offices the experience in European countries and in Canada clearly proves their work, and as for decasualization plans for waterfront labor, not only European ports, but the port of Seattle have found them effective. However, it would seem that a new emphasis is being given to labor as a factor in production by virtue of the possibility of displacing it, and in consequence it may become the subject of as careful an appraisal as is made of other factors. At any rate, the future looks brighter in this respect.

In the meantime, it has remained for private industry to study its employment problems as best it could. The boldest attempt has been made by the men's clothing industry which for some time has had its employment offices, with complete registrations of help wanted and jobs wanted. Since 1923 an unemployment insurance plan has been operative. An important by-product of the plan is full information as to employment conditions in the industry. Not only is there a complete record of individual hours of employment and unemployment, but also a record of the movement of labor within the industry. What is lacking and what must continue to be lacking until we have a national system of recording the movement of labor is what happens to workers leaving the industry. This has been attempted on a small scale for one group of workers in the industry.

A study made by Mr. Robert J. Myers, a graduate student at the University of Chicago, of 217 cutters and trimmers laid off permanently at Hart, Schaffner & Marx during 1926 shows that by 1928 only 10 were back in regular jobs in the Chicago Market, although 16 were engaged in temporary work in their trade in Chicago, and 13 were in allied trades. Four were found in non-union cutting shops in and about Chicago, and 6 resumed their trade in other cities. The remaining cutters and trimmers were found in a great variety of occupations, the greatest number being salesmen. Some of the others were tailors and cleaners, grocers, confectioners, politicians, office clerks, real estate and insurance agents, drivers, firemen, police, and letter carriers, farmers, bootleggers, caretakers, janitors, and day laborers. Twenty-five were found unemployed.

A study of 153 other cutters and trimmers who lost their jobs between 1921 and 1926 shows a smaller percentage back in the industry, and as great a variety of occupations.

Taking both groups, Mr. Myers has found that of 241 who indicated the number of occupations they had held since leaving their regular jobs, 53.5 per cent had been in one occupation, 21.9 per cent in two, 12.0 per cent in three, 9.2 per cent in four, and 2.5 per cent in six. As to the time lost before getting any regular work, 28.1 per cent went immediately into some

regular occupation, 11.3 per cent lost one month, 11.3 per cent lost two months, 7.6 per cent lost three months, 29.9 per cent lost more than six months. The average time lost, properly weighted, was 5.2 months. Of 276 men who gave information as to the trend of their wages since leaving cutting, 30.4 per cent earned more, 23.2 per cent earned about the same, and 46.4 per cent earned less. Of 272 men expressing an opinion, 61 per cent wanted to get back at their regular trade if they could obtain a permanent job.

I am not prepared to state what it may be possible to do about unemployment when information of this character is available for all wage-earners, but it may be assumed that accurate information will make for more precise thinking. An inventory of other factors of production has long been regarded as an essential of good business. It is reasonable to suppose that an inventory of labor will make for more intelligent planning.

ROUND TABLE CONFERENCES

MARKETING

PAUL D. CONVERSE, *Chairman*

The marketing round table session was devoted to a discussion of co-operative (or collective) buying by retailers to meet chain store competition. Various aspects of this topic were treated such as: terminology of collective buying, co-operative buying in the drug and grocery trades, co-operative buying by independent retailers in the grocery trade, group buying in the department store field, and co-operative buying by retail hardware dealers. These topics were chosen to cover various developments in collective buying. The chain stores have had a very large growth in the grocery and drug fields and the co-operative movement among retailers has had considerable growth. Department stores deal extensively in style goods, where presumably collective buying is more difficult, but department store chains are growing rapidly. Hardware retailers handle relatively staple merchandise and chain stores have had relatively little growth in this field, but mail order chains, novelty chains, drug chains, and lumber chains handle many articles sold by the hardware stores.

KARL D. REYER.—Confusion in marketing terminology is particularly noticeable in that phase of marketing ordinarily called "co-operative buying." Is co-operative buying being engaged in by farmers, manufacturers, trade associations, institutions, wholesalers, retailers, or consumers? Who takes the initiative, the vendor, the buyer, or a third party? What form does the buying group take and what buying technique is employed?

A consideration of these various elements leads to the conclusion that care must be taken in the use of the term "co-operative buying" except as a generic term. The word "co-operative" brings first to mind, agricultural producers' associations and consumers' co-operative societies. Long-continued use in connection with these two types of organizations leads to some difficulty when the word is applied to mercantile buying. Another difficulty presents itself as some forms of "co-operative buying" are not strictly co-operative, at least not in the sense that the buyers themselves are "co-operating" with each other. This is sometimes true where the vendor takes the initiative in forming a buying group.

Turning to a possible definition of the mass buying done by other than agricultural associations, consumers societies, and chain stores, perhaps the word "collective" might be substituted for "co-operative," and defined as the joint buying of two or more independent individuals, business firms, or institutions, no matter what the internal organization of the group is, and no matter what purchasing technique is used by the group. Trade papers are increasingly employing "collective" in connection with the joint buying done by independent concerns.

Collective buying groups can be classified according to who takes the initiative in forming the group. In the majority of instances the buyers themselves take the initiative. In nearly every group of this sort there will be found one or two, never more than a very few, strong individuals who devote a great deal of time and effort toward the welfare of the organization. There are well-defined cases where the vendor takes the initiative and promotes a buying organization. Such is true of the so-called "mutual" wholesaler and of the vendor tie-up plan. Third parties are sometimes responsible, as where a newspaper, interested in the sale of advertising space, promotes a joint advertising campaign which in turn often leads to collective buying, or as in the reported instance of the Home Owned Stores at Kalamazoo where an insurance agent, finding the retailers were unable to pay their insurance premiums, organized the campaign.

Looking at their general form of organization and purchasing technique, collective buying groups can be roughly classified as (1) informal and/or temporary and (2) formal and/or permanent. Included in the first classification are: 1. Occasional pools for the purpose of securing freight rates and car lot discounts. 2. Arrangements for period requirements, as in the case of a small association of piano bench manufacturers, who annually arrange for their year's supply of hinges. 3. Informal buying by friends or relatives, as is the case of push cart peddlers in New York City, who collectively purchase 15 per cent of their stock. 4. Chance buying. The statement is made that there has always been a certain amount of combined buying by wholesale dry goods merchants in the New York market. Such non-competing merchants, meeting in some hotel and talking over their problems, have often taken the opportunity to pool their buying of certain staples.

The second classification, permanent types, can be divided into such types as the buying club, or exchange, the retailer-owned wholesale house, the resident buying office, the central purchasing bureau, the merchandising group, the brokerage organization, the "mutual" wholesaler, and the vendor tie-up. In all except the last two the buyer usually takes the initiative, although third parties may promote the merchandising group.

The buying club, or exchange, is simple in its method of operation. In England this type is called a "ring." The buying club has the characteristics of a ring in that each member has his part to perform. In a retail grocery club one store buys flour for the group, another soap, etc. It is reported that the Walgreen stores were materially assisted in early years by membership in a buying club. When the activities of the club begin to take up too much time, and definite financing is required for warehousing and for further expansion, it is not uncommon for the buying club to be incorporated by the retailers. The new institution is called a retailer-owned wholesale company. There are a number in the drug and grocery fields and a few in the hardware and lumber fields. While "co-operative wholesaler" is sometimes applied to such concerns, "retailer-owned" is more explicit, and is incorporated in the name of the national association of retailer-owned wholesale groceries.

The resident buying office has been divided into three classes; namely,

commission, paid either by vendor or buyer; flat fee, paid by buyer; and co-operative, with operating expenses met jointly by co-operating stores. The resident buying office permits the concentration of a considerable amount of buying. The flat fee, or salaried resident buying office, even though operated by an individual for individual profit, often affords its clients the opportunity to combine purchases of some staple items and to engage in group selection and buying of style goods. Naturally enough, the co-operative buying office also affords the opportunity to combine or consolidate purchases, and to engage in the group buying of style goods. The purely buyer-initiated group is also called a "buying association," and, limited to the furniture field, a "buying syndicate."

There has been a significant growth of collective buying by trade and professional associations. Here a purchasing bureau is set up. Agreements are made with sources of supply and price concessions are secured in return for anticipated volume. The bureau neither warehouses the merchandise nor finances the transactions. While the orders may or may not be cleared through the bureau all goods are shipped and billed direct to the buyers. Such bureaus are now operated by the American Institute of Meat Packing, the Educational Buyers Association, the Cleveland Hospital Council, the Associated General Contractors of America, and others.

An infrequent form of collective buying is the brokerage concern. This is a skeleton organization established for the purpose of securing brokerage and then splitting any surplus over operating costs with the several members. Grocery wholesalers are found to belong to such organizations, which are called "sales companies."

A type of buying group encountered in the retail grocery field, and to some extent in the drug field, is the merchandising group. This group is sometimes called an "independent chain" or "synthetic chain." It is usually first formed for the purpose of joint advertising. Uniform store fronts and standard layouts are adopted. The group approaches vendors for "specials" to be featured in the advertising. Thus the way is paved toward collective buying. Such groups in Ohio are the Handy Service Stores of Youngstown and Springfield, and the Serv-U-Wel Markets of Zanesville and elsewhere. While the merchandising group may be started by the retailers themselves, the credit for the general scheme of organization is given to a New York newspaper. The Newspaper Advertising Executives in 1923 awarded this newspaper the Schuhman Trophy for the most constructive plan for promoting the sale of advertising space.

The two remaining forms of collective buying to be mentioned here are the mutual wholesaler and the vendor tie-up. In the former, which is a privately owned and operated concern, a deposit is exacted in return for a service contract or buying privilege. Little credit is extended and in exchange the retailer is offered certain price concessions. The Mutual Drug Company and the Creasy Corporation are examples of the mutual wholesaler. The vendor tie-up goes under a number of different names, such as "contract wholesaler," "near-chain," "jobber's chain," and "voluntary chain." The plan may be promoted by the manufacturer as well as the

wholesaler, as illustrated by the Footwear Guild and a plan now under way by a prominent furniture company. In the past the manufacturer has asked the retailer to buy stock, as was done by the United Drug Company, the Winchester-Simmons Company, and the United Jewelers, with Rexall, Winchester, and Hallmark stores, respectively. The present form of financial contribution is in the shape of dues used toward the expenses of a vendor-buyer advertising campaign. Effort is made to push special items, the vendor reducing his prices on such items. Service wholesalers, mutual wholesalers, and even a retailer-owned wholesale house, are fostering this sort of sales promotion. Current examples are the Red and White Stores, the Independent Grocers Alliance, URE Druggists, HyPure Druggists, Ben Franklin Stores, etc.

Finally, a few miscellaneous terms might be mentioned. In the trade generally, "buying syndicate" refers to the five and ten cent store chains, although "syndicate" is used in the furniture field with reference to independent stores' buying associations. Another term, "centralized buying," is the co-ordinated purchasing done by governments, such as that done by a state purchasing bureau. "Centralized" is also applied to the buying done by the central office of multiple unit corporations, such as is done by a public utility company for its various holdings.

Particular attention is directed to the remaining term, "group buying." This term has been and is widely used at the present time, but should be restricted to a particular technique of buying. Thus, "group buying" is a special method of buying, or rather selection of merchandise. A group of buyers examines different samples, talks over the merchandise offerings, and decides upon the vendors to be patronized. This method of group selection and judgment is being fostered by the resident buying offices of various types, including the resident buying offices maintained by chain department stores. This technique is chiefly employed in the buying of style merchandise.

W. L. WHITE.—The type of retail co-operative organization to which I shall limit myself can best be defined as an incorporated organization owned and operated by financially independent retailers, which acts as a common but distinct wholesale distributor for its members, buys in its own name, and warehouses its purchases.

The average or typical association in the drug trade is incorporated, capitalized at $200,000 common stock, about half of which is issued; and $50,000 8 per cent preferred stock, practically all of which is issued. It is located in a city of 400,000 population or over, has 390 members who purchase $1,900,000 worth of merchandise annually. These retailer-stockholders operate their wholesale business through a board of directors which employs a full-time manager. Each member has an equal vote; no dividends are declared on common stock; and all merchandise is sold at cost plus anticipated handling charges.

Since the average association employs only one salesman, it relies largely upon the telephone, weekly bulletins, and catalogs for its sales effort. It extends credit for seven to ten days, penalizing a delinquent mem-

ber either by charging an extra 1 to 3 per cent a week on all overdue accounts or by refusing to fill any further orders until a settlement is made. The association owns its warehouse, carries a stock of merchandise composed largely of fast moving, well-known items, and daily delivers free of charge to all its members located in the local trade area. The association buys between 75 per cent and 95 per cent of all its merchandise direct from manufacturers at the regular wholesale price.

The typical association in the grocery trade is similar, with the following exceptions: it is capitalized for $130,000 common and $65,000 preferred stock, about half of each class is issued; it is located in a city of 50,000 population or over and has a membership of 300 with purchases of $1,350,000 annually. The grocery association leases its warehouse space, delivers semi-weekly, and carries a relatively less complete stock.

Expense figures were obtained from 11 drug associations for the year 1926. Seven of these organizations extended services comparable to those of the service wholesale druggist. Their average total expense was 7.65 per cent of total net sales as compared with 15.8 per cent for 129 service wholesalers for the year 1924 as reported by the Harvard Bureau of Business Research. The most efficient co-operative house operated on 6.65 per cent while the most efficient service wholesaler incurred expenses of 9.7 per cent. The advantage of the average co-operative over the average service house was approximately 8 per cent, but the advantage of the most efficient co-operative over the most efficient service organization was only 3 per cent.

In the grocery field, expense reports were collected from some 23 organizations, 7 of which extended services (credit and delivery) which duplicated those of the so-called service wholesaler. These 7 service houses had an average total expense in 1926 of 6.9 per cent, compared with 10.6 per cent for 501 service wholesalers who reported to Harvard in 1924. The average co-operative's cost was 3.7 per cent lower. The most efficient co-operative organization effected a saving of 2.6 per cent over the most efficient service wholesaler.

While these figures illustrate the savings which co-operative associations effect in their own operations, they do not necessarily prove that the public or even the retailer-stockholder receives savings equal to these amounts in dealings with the co-operatives.

To understand their significance we should have in mind the causes for the decreased operating expenses. Lower costs themselves can be earned if (1) one or more wholesaling function is eliminated, (2) the cost of performing one or more functions is reduced, or (3) the cost of performing one or more is shifted to some second organization such as the supplier, another wholesaler, or the retailer.

Co-operative retail buying associations do not eliminate any function customarily performed by other types of wholesalers, particularly service houses. They do reduce their own expenses however, by reducing the cost of performing some functions and by shifting that performance to others who may be able to perform it more or less effectively.

Some comparable figures are available for the grocery trade. From their study it appears that approximately half the apparent saving of 3.7 per cent is the result of a reduction of the cost of performing certain functions. The reduction of selling effort effects a saving of about 1.7 per cent while limited credit extension saves another 0.1 per cent in reducing losses from bad debts.

The remainder, 1.9 per cent, appears to be a paper saving resulting from a shifting of expenses to other wholesalers and retailer-stockholders. This figure includes 0.75 per cent in interest charges, 0.75 per cent in total executive and office wages, and 0.40 per cent in receiving, storage, and shipping expense. Approximately 50 per cent of the normal interest charges are shifted to the stockholder who receives no interest on his investment in common stock, cash deposit, and occasionally preferred stock. Interest charges are decreased also by the extension of limited credit and the maintenance of limited stocks. Customers needing more credit must go to the credit houses with part of their business and those needing slow moving lines must also look elsewhere. Thus, by decreasing their costs, the co-operatives have increased those of other wholesalers.

Since less credit is extended, since fewer salesmen are employed, and since smaller stocks are carried, the total executive and office wages expense is less. Part of this saving, or about 0.75 per cent, is shifted because the supervision and detailed work normally performed by the service wholesaler is left to others. The saving of approximately 0.40 per cent in receiving, storage, and shipping expense is shifted in a similar manner.

Now let us consider the persons to whom the results of co-operative activity are shifted. First we may say that the manufacturer who sells to a co-operative association is not affected, either by having to expend unusual amounts for selling effort, extend unusual credits, or allow an abnormal number of drop shipments. Competing wholesalers, especially service houses, are affected by the operating methods of co-operatives. Co-operatives are located only in the larger cities and a large portion of their sales are limited to the local trading area. Service wholesalers find their least competitive markets in those territories most expensive to reach. When in competition with co-operatives, the service houses receive a larger portion of credit business, much of which is from poorer than average risks. Finally, a larger portion of service business is done on slower moving items on which the actual net profit is least.

The retailer-member, however, is most affected. He must make an investment in the organization, on which he usually receives less than the going rate of interest. He has to initiate most of the orders which he places with the co-operative, pay cash within one week, and fill in his lines from other wholesalers.

Although there are other points of difference between the co-operative association and the service wholesaler, these are of less importance and do not materially affect the results already presented. The conclusion, then, can be drawn that an average co-operative retail buying association in the grocery trade can effect a total net saving of slightly less than 2 per cent

to the retailer, none, part, or all of which may be passed on to the consumer in individual cases. In the drug trade, where selling expense is relatively more important, a reasonable conclusion is that the net saving approximates 4 per cent.

WALTER W. WARSHAWER.—You gentlemen interested in the department stores' problems of group buying have undoubtedly read many of the voluminous articles and reports appearing in trade papers during the past few years. Not all of these articles have been taken seriously by all department store executives for many obvious reasons. That group buying has flourished in its small way is not surprising, for there are many advantages. The much discussed advantage of the saving in the cost of merchandise is rather an indefinite one, and very often no saving at all, because many large stores have access to these supposedly lower prices due to their own buying volume.

There was a time when the inspired buyer alone knew all the secrets of the buying profession, but group buying has enabled the management to pull it out of the dark and into the light where it does not seem nearly so mysterious. In the opinion of many department store men, the greatest advantage is the round table discussion of a group of buyers as to the relative merits of the article up for consideration. The combined judgment of a number of buyers is obviously of tremendous import, and is undoubtedly the important factor in group buying.

It is my plan to discuss the practice of group buying as it actually occurs in a group of stores.

During 1927, purchases in the dry goods division of the group of articles such as linens, wash goods, domestics, upholstery, silks, and blankets amounted to 9 per cent of the total retail volume in this group.

In our ready-to-wear group, there was purchased in group meetings an amount equal to 5 per cent of the total retail ready-to-wear volume. If this seems small, bear in mind that ready-to-wear is a highly specialized style class of merchandise, and that it calls for considerable individual selection, to meet the demand of the individual store's clientele.

In the group of departments that include ready-to-wear accessories such as housedresses, corsets, underwear, infants' and children's wear, etc., the percentage for the first six months of this year was 6½ per cent of the total retail volume of that group.

In the classification of men's and boys' wear, 8 per cent of that group's retail volume in 1927 was bought at group meetings. Particularly successful have we been in this group as is evidenced by the figure of nearly 11 per cent for the first six months of 1928. In knit goods such as hosiery and underwear, the purchases were 16 per cent of the sales during the year of 1927. In home furnishings the percentage for the year 1927 was nearly 10 per cent. In fancy goods such as jewelry, handkerchiefs, silverware, neckwear, gloves, and leather goods the percentage was over 5 per cent of the total retail volume in those departments. In toilet goods and notions it equalled 9 per cent for 1927 and nearly 11 per cent for the first six months of 1928. In shoes the percentage was 14 per cent for 1927

and for the first six months of 1928 the percentage grew to 21 per cent of the total retail volume in shoes. In our basement division of departments during the year 1927 there was purchased 9 per cent of the total basement volume, and for the first six months of 1928 it grew to approximately 14 per cent.

The 1927 total of all these group purchases amounted to 8 per cent of the annual retail volume in the same departments. For the first six months of this year there was an increase of 30 per cent over the corresponding six months of last year, indicating that there is in our organization a belief in group buying.

Further definite examples of our group purchases are the purchase of silk from one source that amounted to $150,000 (at cost) during nine months; two rayon silk numbers from another source that amounted to $100,000 during the same period. A total of nine silk numbers from five manufacturers amounted to 22 per cent of the total retail volume of all the silk departments.

There was purchased in rayon underwear, 10 per cent of the total retail rayon underwear volume of all the stores in the group. Purchases on two items in our bedwear department were over 18,000 units which total in dollars amounted to 23 per cent of the total retail bedwear volume. On two items in hosiery bought in group meeting, the purchases amounted to 5 per cent of the total hosiery volume of all the stores.

From these figures it can be deducted that in our opinion the standardization of items in group meetings, with the advantages of the discussions of a number of buyers, is in the larger sense a successful merchandising plan. While it is true that not all of these purchases were made at group meetings, they were, however, made from preferred sources established at these group meetings. The manufacturer of vision, therefore, should be anxious to become a preferred source; the department store buyer with vision should properly purchase from a preferred source.

I have given the impression that in our opinion group buying is on its way to greater success. There are, of course, several major problems still to be worked out. There is the buyer who feels that group buying cramps his judgment, and who sees a loss of prestige. Then there is the possibility of a buyer being carried away by the enthusiasm of the group in making a larger purchase than his volume of sales warrants. Another disadvantage is the general character of the market representatives who should be individuals capable of inspiring the group, and who should have the ability to work on the important problems that present themselves.

And last but not least, let us not forget the consumer. We believe by this careful method of selection of merchandise, we are able to offer the consumer quality as well as style and price. For the most part, the response of the consumer on the items selected in group has indicated that the consumer too finds advantages.

LAND ECONOMICS

JOHN V. VAN SICKLE, *Chairman*

HERBERT D. SIMPSON.—In discussing the general topic of the effects of public improvements on land values, I shall direct my attention to some of the effects that followed the widening of North Michigan Avenue, Chicago. In the enormous projects of public improvement that have been carried out in this country in the past decade, one argument in support of them, has been the additional property values they are believed to create. The construction of the Michigan Avenue bridge, we have frequently been told, cost the city of Chicago $16,000,000 but added $100,000,000 to the value of sites north of the river, thereby repaying its cost six times over. And so a new subway, rapid transit extension, or highway system makes new territory accessible to the downtown districts or adds a new residential section to the city, and thereby adds a corresponding amount to the aggregate real estate values of the city or region.

Now, this popular juxtaposition of increased supply and increased value appears to the writer to run the risk of a dangerous *non sequitur*. We certainly would not apply the same reasoning indiscriminately to other commodities. The potato crop of 1928 was estimated by the Department of Agriculture to be 60,000,000 bushels larger than that of 1927; but, according to the Department's estimate, was worth only $.54 a bushel, compared with $.965 a year ago, or a loss of $138,700,000 in the value of the larger crop of 1928 as compared with the smaller crop of 1927. Now, this increased production was secured in part by an increase of 349,000 acres, or approximately 10 per cent, in the potato acreage of the country. If this additional 349,000 acres had been newly "created," so to speak, by clearing, drainage, irrigation, or other process, the government department or other agencies carrying on the improvement would doubtless have computed the value of the increased acreage—at the current rate of value of the previous acreage—and congratulated the farmers on the addition of millions of dollars of value to the potato acreage of the country.

Yet what has been the effect of the new acreage on the aggregate value of the potato acreage of the country? The Department of Agriculture figures leave little room for theorizing about this. The value of the production per acre, which was $111.94 in 1927, dropped to $65.34 in 1928, a loss of $46.60 in the yield per acre—a sufficient drop to wipe out any net rent that could possibly have been assigned to the previous acreage and to impinge upon a proper allowance for wages and other expenses besides. So that if the value of this total acreage were dependent upon any net income that could be anticipated from continued potato production at this year's price, it would be headed for a severer deflation than that of 1921. Fortunately such drastic deflation will be averted by transferring a portion of this acreage to other lines of production.

But the point of all this, nevertheless, is that in this case, an increase of 10 per cent in acreage and 15 per cent in the product, would, if continued, abstract more value from existing acreage than it would add in the form of new acreage, and leave a net decrease in total land value. It will be the purpose of this paper to suggest that the same thing probably happens many times in the case of additions to the supply of available land for urban and other purposes.

For the sake of precision, our discussion will be limited to those forms of public improvement whose effects are analogous to increasing the supply of land available for any given purpose, and to land whose value is related to its productive capacity for some purpose, since this is the only kind of value to which any precise measurements can be applied. In this inquiry we may apply three methods of approach; namely, a simple mathematical or accounting formula, a theoretical analysis, and a factual study.

In the case of land valued for income-producing purposes, we are able to apply definite mathematical processes in the form of capitalization of that income. For example, if we suppose (as in the first illustration below) that present landowners in some particular type of utilization are securing a net rent of 10 per cent (a liberal allowance), and that an increase of 10 per cent in the supply of land available for this use will reduce the price of the product or service only 1 per cent (a conservative conjecture) a capitalization of the resulting incomes will suggest how extremely improbable it is that any increase in the supply of land available for a given purpose is going to add anything to the total value of land in that use.

If we suppose a more normal situation, where an increase of 10 per cent in the supply causes a drop of at least 5 per cent in the price of the product, we have the surprising result in Illustration II.

And if we suppose (as in Illustration III) that even doubling the supply only reduces the price of the product 10 per cent, we have at once the bankrupt situation in which farmers, mine owners, and other classes of landowners have at various times found themselves.

EFFECT OF INCREASES IN SUPPLY OF LAND ON CAPITALIZATION OF INCOME

Hypothetical Illustrations

Supply of Land (Acres)	Product per Acre	Price of Commodity	Gross Value per Acre	Expenses per Acre	Net Rent per Acre	Capitalization Rate (Per cent)	Value per Acre	Aggregate Land Value
I. Aggregate Land Values Unchanged								
10	10	$1.00	$10.00	$9.00	$1.00	5	$20.00	$200.00
11	10	.99	9.90	9.00	.90	5	18.00	198.00
II. Aggregate Land Values Decreased								
10	10	$1.00	$10.00	$9.00	$1.00	5	$20.00	$200.00
11	10	.95	9.50	9.00	.50	5	10.00	110.00
III. Doubling Supply								
10	10	$1.00	$10.00	$9.00	$1.00	5	$20.00	$200.00
20	10	.90	9.00	9.00	.00	5	.00	?

One may vary the combinations of supply, price of product, net rent, and capitalization rate and get therefrom varying results. But regardless of the combinations one may make, the mathematics of it is such that his results must come within the following simple formula: The drop in price of product cannot be a larger proportion of present net rent than the increase in supply is of total supply—without causing an actual decrease in total land value. That is, in order merely to maintain the present aggregate of land values of a given class or within a given territory, the decrease in price of the product or service must not be a larger proportion of present net rent than the increase in supply is of total resulting supply.

Now, simple as this is from the mathematical standpoint, it nevertheless puts us in a way to make a fairly definite approach to what has always been considered a very intangible problem. For it is obvious from the formula that the possibility that an increase in the supply of available sites for any purpose will be accompanied by any addition to total land value must depend on two factors: first, the margin of net rent which landowners are securing before the increase in supply; and, second, the elasticity of demand for the particular product or service after the increase. And while these factors are not susceptible of precise measurement, the conditions of production in many fields make it possible to appraise them within limits which leave little doubt about the inferences to be drawn. If the Reclamation Service at Washington had applied this formula, it would have been possible, in the case of many of the irrigation and reclamation projects carried out in the past fifteen years as public improvements to be financed in part out of taxes, to calculate with a great deal of precision that these improvements would actually have the effect of diminishing the assets of the country in terms of value. This alone would not necessarily indicate the undesirability of the projects. It might have felt that the boon of lower prices to the consumers more than offset the hardships of declining prices and land values to the producers. But at least we should know what the contemplated objective is; and the application of the formula suggested should have prevented these government departments from falling into the common notion that these great public improvements, which increase the accessibility or availability of agricultural land, necessarily add anything to the value of the agricultural assets of the country.

Our illustrations may be broadened to include frequent situations in the mining industries, in residential sites, in apartment building, hotel construction, and many other urban fields; and with the same implications; namely, that an increase in the supply of accessible sites available for any of these purposes can rarely have the effect of increasing the total value of land in the various uses.

Surprising as the results of the formula above may seem, the process by which the formula is derived is very simple and rests on very commonly accepted principles. The theory underlying the formula is equally simple.

Land values are caused by the demand for land and its services. Where people are concentrated in large numbers, particularly people liberally equipped with capital, enterprise, and technical capacity, values rise,

because each one brings with him his bundle of demands for land and its services. But at all the scattered points from which these same people have come, each one has likewise left a vacuum, large or small, according to the bundle of demands he carried away with him. In other words, land values, like people, are essentially nomadic, roving about from place to place over the face of the earth. We speak about *mobilia* and *immobilia* among forms of wealth, and land is always spoken of as the extreme example of *immobilia*, "fixed" and "immovable" assets. But if we are speaking of the values associated with these objects of wealth rather than the physical objects themselves, no values are more volatile, movable, more truly *mobilia* than land values.

The physical contour of the United States has probably not changed materially for thousands of years; but a value map of these physical assets, if accurate, would have to be changed every day. And such a map would resemble not so much a contour map in plaster paris or putty, with its fixed peaks and depressions, as it would the surface of the ocean, with its broad currents, its rising and falling tides, and its waves with crest and trough following each other perpetually in one direction or another.

In the United States we have had a particularly picturesque field for a study of these movements. Since the settlement of the country we have had one huge wave starting on the Atlantic coast and moving steadily westward, whose trough—so far at least as agricultural lands were concerned—at one time engulfed not only the Atlantic seaboard but much of Great Britain, Ireland, and western Europe. In the past thirty years we have had a powerful current flowing out of Pennsylvania up the Mahoning Valley and across the Great Lakes territory, bringing prosperity to Toledo, Detroit, and Chicago; but many once prosperous Pennsylvania towns are at the present moment falling into its trough. In more recent years we have had a broad current flowing out of New England to the south and southeast, with great promise for the "New South"; but how deep the trough is going to drag it will be hard to say. And here in Chicago we have had some huge waves of land values, flowing southward at first, and then reversing their current and flowing northward.

Now one factor (among many others it is true, but nevertheless one factor that has frequently been influential in shaping the channels along which these currents of land value flow) has been that of large public improvements—from the time when the great western movement itself followed largely the channels of public policy and of great public improvements in the form of highways, canals, and railroads.

But the influence of public improvements in "creating" land values has always been recognized, sometimes perhaps exaggerated; and the chief purpose of this paper is to suggest the necessity of studying the troughs in the wake of public improvements as well as the crests that ride ahead of them. We had hoped to have by this time some concrete results of a study of public improvements as a factor in land values in Chicago, but the absorption of my time almost entirely during the past year in connection with the tax situation in Chicago and Illinois has delayed the study.

This study is going forward, however, and sooner or later we shall have some very concrete facts on this problem.

Meanwhile, I have attempted in the present paper to formulate the mathematical and theoretical analysis that underlies the problem. If this analysis is sound, it suggests the inference that increases in the supply of land can rarely add anything to the total value of land. And since to many this will seem like a preposterous conclusion, I am going to ask you, in closing, to visualize the problem in its historical setting in the United States; and to ask yourselves how much would the addition of all the land west of the Alleghanies have added to the value of land in the United States, if population, supply of capital, state of industrial technique, and all other factors had remained unchanged? The population of the country in the days of Washington was estimated at around 4,000,000—slightly more than the present population of Chicago. Suppose that population had not increased by a single soul; that capital had not increased by a single dollar; that industrial technique had not changed a single iota; that the only change had been the Louisiana purchase, the Florida purchase, the acquisition of the southwest, the purchase of Alaska, and the acquisition of other odds and ends of the earth's surface. As it was, millions of acres of land were sold for $.50 to $1.00 an acre, before these acquisitions; and economists have often spoken of conditions of virtually free land in this period. With the additional weight of later acquisitions (population and other things remaining the same), it is difficult to see how land could have become anything else than a free good, except for some legal formality involved in acquiring title.

In short, it was the other things which did not remain the same (that is, increase of population, increase of capital, revolutionary improvements in industrial technique, changes in the value of money, and other things) that gave value to this vast territory. And the presumption is strong that normally, if not always, it is these things that cause increased land values; and that increases in the supply of land in the form of increased accessibility, availability, and usability, in consequence of public improvements and other factors, must normally tend to decrease total land values; that is, must tend to abstract from existing values more than they add in the form of new land values.

If this conclusion is true, it has some fundamentally important implications with regard to forms of taxation and methods of financing the cost of these public improvements. But these implications we will leave until we have had opportunity to test further the soundness of the conclusion itself.

Edwin H. Spengler.—In view of the fact that various commissions and public bodies appear to be proceeding upon the assumption that extensions of systems of rapid transit are directly and inevitably responsible for urban land value increases, it is of interest to examine some of the data on the course of land values with respect to increases in transit facilities in the heart of New York City. It is often asserted, and popularly accepted, that local benefits always arise from urban transportation systems. As

it has been put recently by one group: "The degree may and does vary—the fact of local benefit does not."

But how much may the degree vary? May it diminish to the vanishing point? If so, is the effect any longer entitled to be called a benefit? Is it proper to speak of transportation development as being in any true sense a cause of land values, or is it more properly to be considered an operation which permits, under certain circumstances, an emergence of land values—the values being determined largely by other factors?

What does the history of Manhattan reveal in reference to value changes in land along transit lines? As a basis for this investigation assessed valuations compiled by the Department of Taxes and Assessments of New York City were used. They show that in the period 1905-27 the land value of the borough of Manhattan increased only 75 per cent. This does not tell the whole story, however, for during this period land values in some parts of Manhattan were steadily declining, in other parts, were steadily rising, and in still others, were rising and falling.

A careful study of the island displays an interesting assortment of changes. In the famous financial area in the lower end of Manhattan, for example, the number of transit stops built has exceeded the number erected in any other area of similar size in the city; yet the percentage increase in land value since their construction has been less than the general average increase for the whole island. Passing to a second district directly north, up to Grand Street, a somewhat mottled effect is seen. A northward movement taking place on the island has left antiquated and less desirable space vacant, and has produced a decline in values. A slight increase along the 7th Avenue and the Centre Street subways occurred here since they were opened. A decline of 15 per cent along the East Side subway took place nine years after its completion. A drop of 2 per cent was witnessed along the Broadway subway route after it was opened in this section. The subway development here does not seem to have counterbalanced the influences making for declines.

This same situation is still more strikingly shown in a third section still further north between Watts and Grand Streets, and 14th Street. The land value there today is less than what it was two decades ago; this is true, despite the fact that fourteen additional subway stations have been built in this section during this period. What happened here? The answer is that the "March to the North" was felt even more keenly in this territory than in the more southerly section previously referred to. The worst effects of decline in land values came in the approximate center of this section. It so happens that this area is served by fifteen of the eighteen subway stations within the whole section.

As was to be expected, the land north of 14th Street rose in value with the influx of the trades from further south. The section from 14th Street to 25th Street illustrates this very clearly. The gains ranged from 6 per cent to 90 per cent for portions of the section, the greatest increases occurring east of Broadway. This was the area served by the new subway of 1904. Here were located the new fireproof buildings that had helped

to attract the trades to 4th and 5th Avenues above 14th Street. It has already been seen that the movement of trades into this section from a more southerly location made sites here increasingly attractive. A similar movement was taking place in other parts of the island. When the first New York subway was opened in 1904, the retail stores were already moving to 34th Street from the old 23rd Street center. The opening of the new subway, the announcement of the Pennsylvania station, and the extension of the Hudson tubes to 33rd Street caused merchants to look northward. The pressure of upward shifting of manufacturing also helped to force this change. Therefore, although land was still in demand in this vicinity, the gradual removal of the department stores and specialty shops prevented as rapid a rise as would otherwise have probably occurred. Since retail shopping centers are regarded as one of the highest uses to which real estate can be put, this section was actually falling from a higher to a lower use.

A subway was built on 7th Avenue, and the erection of loft buildings in that area had taken place by the time the subway was opened in 1918. An increase of 75 per cent occurred in the region running two blocks west of 7th Avenue between the time that construction work was started on the subway and 1927, as against only 6.5 per cent between 1905-13—the same period during which the property along the other subway route had jumped up 90 per cent. Was the subway responsible? Of course only one block to the east was the 6th Avenue elevated line, and two blocks to the west was the 9th Avenue elevated, but nevertheless some degree of accessibility was added for these blocks are comparatively long. But it is important to remember that new loft buildings in this area were attracting tenants and that the subway was therefore passing through an area actively in demand. It should not be forgotten that there had been witnessed a decline in land values along this same subway, and during the same period of time, in the lower section of Manhattan between Reade and Franklin Streets.

The Broadway B. M. T. subway was also opened in 1918. What happened to the land between the 7th Avenue and the Broadway subways from 14th to 23rd Street? It declined! The land there today is worth less than it was in 1905. A drop of over 30 per cent has taken place since its high value of 1911 was reached. In fact the whole central area between the 7th Avenue subway and the 4th Avenue line dropped by 30 per cent in this period!

Between 4th and 2nd Avenues the land increased by 16 per cent. This represents the largest gain in this whole region. Yet it appears small when it is recalled that this strip gained by 90 per cent over a shorter, earlier period. How long does the influence of the subway last? Does the bulk of the increased value arise immediately upon the opening of the subway, and then taper off? May the increased value be delayed in coming for many years? Does the effect vary under different circumstances?

The latter suggestion comes nearest the truth in the light of the experience in Manhattan. If this is so, what are the circumstances that are conducive

to the occurrence of a value increase? Does the problem not really involve a "Subway-plus" concept?

The forces pushing business northward in Manhattan have been partly checked by the presence of Central Park, which makes it more desirable to locate below 59th street if maximum accessibility is needed. The two great terminals of Grand Central and Pennsylvania Stations have anchored a large transient population in the mid-town district. The result has been that values have been pushed to a peak in the mid-town section, and transit lines through this area have witnessed increases of several hundred per cent along their routes. Large hotels, office buildings, stores and theaters have been drawn into this great transit center—a center which has been estimated by prominent real estate men to include the most valuable property in New York.

The extreme Eastside tenement district of Manhattan in this section presents an interesting case. The whim of some society leaders in selecting the Sutton Place site between 57th and 59th Streets along the East River as a residential district for the well-to-do, started apartment house construction there, and brought millions to owners of cheap tenement property. Also Fred French's waterfront apartment development known as Tudor City, running north of 42nd Street, is responsible for a phenomenal rise. One of the merits of the development is that it makes it possible for many people to live within walking distance from their work in the mid-town district. In this expansion, then, the subway had little to do with the growth.

The extension of the Lexington Avenue subway north of 42nd Street occurred in 1918. This was the first subway which this area east of Central Park obtained. However, two elevated lines had served the section for many decades. Appreciable gains were registered along this entire Eastern stretch as far north as 96th Street. It became one of the most thriving commercial areas directly north of 42nd Street. And north of 59th Street, a very exclusive residential growth occurred, with appreciable gains in land values. Did the subway cause this change? Perhaps, in part, but some very important improvements were made by the New York Central Railroad. The company removed its railway yards, covered the open cut, created new cross streets north of 45th Street, and electrified its lines. These improvements made possible the elimination of the smoke, and the creation of a beautiful wide road along Park Avenue. The effect was magical. The New York Central itself built new structures within the newly created blocks, and many hotels and office buildings were quick to follow. Further north, apartments and fine mansions were rapidly constructed.

On the western side of Central Park, one subway line and one elevated line served the area in 1905. No changes in transit above 59th Street have been made since that time. Between 1905-13, land here gained on the average of 30 per cent. Since 1913, it has risen by 70 per cent. The gradual rise of the city further northward in its demands for space caused this vicinity to grow in value. The transportation was already provided; demand was all that was necessary.

The northern end of Manhattan Island remains for consideration. Phenomenal gains were made here since 1905, when its one and only transit line was built. Increases from 82 per cent to 216 per cent occurred for the whole area. This was the area cited by the City Club in its report of 1910, when it showed that the gains made in land values here could have paid for the whole cost of building the subway.

This in fact appears to be the case. But one point should not be neglected. Although the subway may be the means of calling land into new uses, much of the increment in value was necessary to cover the costs of converting raw land into land suitable for residential use. Operators place these costs at from three to four times the original value.

What conclusions may be drawn from this survey?

It seems clear that:

(1) There have been no very large increases in aggregate land values in Manhattan in the last twenty years, especially when one takes into consideration movements in interest rates and changes in the dollar value.

(2) The building of subways in New York has been accompanied by shifts in land values from one part of Manhattan to another. Shifts in location are apt to be accelerated by transit lines running in the same direction as the shift is going. This works to transfer values rather than to increase values.

(3) Certain influences upon land values have frequently caused decreases which the transit line was unable to overcome. In these cases the assertion of a local benefit arising is questionable.

(4) Transit lines which have become obsolete, such as certain elevated spurs, keep down land values in sections which might otherwise rise.

(5) Although new sections may be developed profitably only after rapid transit facilities have been extended to them, a very great part of the large increases in values experienced by them arises out of expenses incident to subdividing.

(6) Effects of rapid transit construction cannot be assumed to be uniform and therefore no policy of special assessments can be equitably applied if it seeks to make a mechanical levy according to some fixed formula for an area supposedly affected by new transit lines.

In view of the foregoing considerations it is scarcely possible for the experience in Manhattan to be in agreement with the statement which says: "That local benefit arises from urban transportation systems is so indisputable as not to warrant further argument or illustration."

Ernest M. Fisher.—The previous remarks have served to indicate the number of problems connected with the general topic of the effect of public improvements on land values. Another one which is suggested by Professor Simpson's paper and by some of the other remarks that have been made is that of the use of the improvements that are left behind in the shifting of use districts. The effort which is constantly made is to push the present residential district further and further from the center. The attention and efforts of real estate men are constantly exerted toward the exploitation

of new areas. Heretofore the improvements left in areas that are partially depopulated, at least, deteriorated and became a part of one of the great problems of urban life. They constitute the slum area.

A considerable economic waste is likely to be involved in this constant creeping of the urban uses from one place to another. The recent development of such an enterprise as Tudor City in New York City, serves to call attention to the possibilities that may lie in the rehabilitation of some of these neglected areas.

The only purpose in my remarks is to point out this additional problem by raising the question as to whether some of the "progress" made in pushing out the urban area and in developing new real estate wants is not effected at a high economic price due to waste of capital invested in improvements that are deserted before their physical life becomes exhausted.

If we should adopt the philosophy of writing off land values by the accumulation of what amounts to a depreciation reserve, we would apparently sanction the constant development of new areas at whatever economic price, to the neglect of the possibilities that lie in the areas currently in use.

A. H. Weinstein.—Dr. Simpson's analogy of potato land and of urban land seems questionable. The total value of land in any city is obviously determined by a number of uses and is not dependent on the market price of any one commodity. Furthermore, the excellence of outlying districts for residential use is recognized by prospective purchasers and builders and results in an undeniable demand upon public officials for the necessary improvements affecting these areas. Such a condition is not found in the case of land used for potato growing.

This movement of the more well-to-do class of the city population to outlying residential districts presents today several new aspects. Formerly the vacancies created by this movement were filled immediately by the latest migrants from the rural districts, by immigrant families, or by new industries which were springing up continually. Often older properties in these so-called "blighted districts" brought more income in the second or third than in the original use. Today these conditions are changing; the number of immigrant families has been limited, the size of families is decreasing, industries are grouping themselves more and more in specialized industrial districts.

These facts lead to the question of the future of the "blighted district." It seems that eventually they will be used as public parks, playgrounds and for other public and semi-public uses. But the period of waiting for such changes will certainly be long and the expenses of holding the land will be heavy. A brief consideration of this condition suggests that it is necessary to discard the old notion of ever rising values and to admit the possibility of obsolescence in urban land.

George S. Wehrwein.—Are there not clear cases where public improvements are responsible for increases in land values and for changes in land utilization detrimental to public welfare? I have in mind the new bridge across the Hudson into the Palisades. The Palisades are public property

only to the top of the cliff. Promoters are getting ready to exploit the land on the top of the cliff for residential and especially apartment purposes. It is claimed that the Palisades as recreative ground will be endangered by this development made possible by a public improvement. Is it not desirable to control the utilization of this area in the interests of public recreation, or ask those benefited to contribute part of the benefits received to the public? If it is a clear case that the improvements at public expense on Michigan Avenue, as shown by Dr. Simpson, have caused great benefits to land owners north of the river and have likewise been the cause of decrements on this street in certain sections south of the river, public action has robbed Peter to pay Paul. I merely want to raise the question: What shall be the policy of the public toward the owner who received the decrement as well as to the man who received the increment?

Richard T. Ely.—The discussions show the broad scope of the problems with which we are dealing in land economics. They also show the need for further research in this field. We have scarcely done more than scratch the surface of the ground. Only a few years ago the term "land economics" was new. Now it is becoming familiar and we can count by the score the educational institutions where instruction in this field is given.

We at this meeting are just a handful; but this is not at all discouraging. I can recall the first meeting of the American Economic Association. I doubt if any more people were present than at our little meeting this morning, but what a tremendous expansion we have had and what a marvelous growth of interest in economics. Even this great hotel can scarcely accommodate those who attend our meetings and the meetings of other organizations which have been the outgrowth of the American Economic Association. It is very gratifying.

LAW AND ECONOMICS

WALTON H. HAMILTON, *Chairman*

A subject alike old and new is the relation of law to economics. Kent once declared that the preamble of the Constitution of the United States enacted Adam Smith's *Wealth of Nations*. In the early part of the nineteenth century the prospectuses of a number of law schools gave an important place to economics in their curricula. One of the most notable of the presidential addresses before this association was upon *Economics and Jurisprudence*, and the subject, in general theme or in particular problem, has been discussed at many of our sessions. Today the greatest of economic problems, because it comprehends most of the others, is how best to reduce an industrial system, which has been transformed by modern technology and modern business, to responsible control. In that elusive and persistent task law is and must continue to be used as an important agency of social direction. In the formulation of a social program the subject of "law and economics" bids fair to be alive for a long time to come.

There are three ways in which a discussion of this subject may be arranged. The first is to inquire about the relation of law in the abstract to economics in the abstract. Here the concepts are so large—and for the most of us so unmanageable—that the discussion is likely to lead to talking at cross purposes and in the end turn out to be bootless; besides the relation of the two subjects has been debated over and over again. A second is to find out and relate the subjects in a discussion of some one specific problem. This has the double disadvantage of limiting participation to those who have been concerned with the particular topic, and of conveying to listeners the impression of a very limited range of discussion. The third is to have a number of persons tell how economics and law are related in the particular studies with which they are engaged. This promises to make the discussion specific and yet to give it a chance to range. The value of this meeting is not in what we say and learn here so much as in what we are led to inquire into later and how much more penetratingly we can make the inquiries. The value of the session is in learning from the other person's experience with a kindred but a somewhat different problem.

JAMES A. MCLAUGHLIN.—The problem here considered, resale price maintenance, arises when a manufacturer of branded or distinctly designated goods endeavors to require his distributors, who have purchased such goods from him, to resell at a designated price. In England he may maintain such a price by a contract, which will be enforced by damage suits or injunctions. Prior to 1911, the scant American authority was to the same general effect. The case of *Dr. Miles Medical Company* v. *John D. Park & Sons Company*, 220 U. S. 373, then decided that a third person could not be enjoined from inducing a breach of such a contract, because the contract

violated the Sherman Anti-Trust Law. The theory is that the restraint of trade condemned by that law includes the restraint of competition involved in eliminating competition between the distributors of a particular article. Subsequent decisions have further spelled out the legal doctrine announced in that case. A series of cases has held that a patentee cannot enforce resale prices whether by contract, by notice, or even by an elaborate system of agreements put in the form of licenses.

U. S. v. *Colgate & Company*, 250 U. S. 300, established that a manufacturer might announce a resale price and enforce it by refusing to deal with price cutters. The Supreme Court could not pass upon the legality of Colgate's price maintenance methods in fact because of the limited scope of review under the section of Criminal Appeals Act under which the case was brought into that Court. Several subsequent Supreme Court decisions were necessary to disabuse the lower Federal courts of misconceptions of the Colgate case.

The next significant decisions is *Federal Trade Commission* v. *Beechnut Packing Company*, 257 U. S. 441, where the defendant had an elaborate and more heralded price maintenance policy, which probably did not differ very much from the system in fact used by Colgate. The Federal Trade Commission ordered the cessation of this practice as an unfair method of competition and the order was sustained by the Supreme Court. I do not think the case can be explained on the ground that the Federal Trade Commission could stop the practice if it did not violate the Sherman Act. Since the decision points out the Beechnut Company's well-organized system for detecting price cutting and shutting off supplies from price cutters, it has sometimes been cynically said that the Colgate and Beechnut cases together show that a manufacturer may enforce his resale prices by refusal to sell provided he uses no efficient modern business methods for doing so. This statement cannot be disproved, but is scarcely adequate. Recent decisions of lower Federal courts indicate that what the manufacturer must avoid is co-operation with his distributors in enforcing the prices. Such co-operative action is considered to constitute a conspiracy in undue restraint of trade.

U. S. v. *General Electric Company*, 272 U. S. 476, holds that if a manufacturer retains legal title to his goods during the process of distribution, he may control their price to the ultimate purchaser. This is axiomatic as a matter of traditional law, but criticism may be made that the criteria, such as risk of loss and risk of no sale, which enable the court to tell whether the manufacturer does retain title to the goods have insufficient relation to the economic desirability of eliminating price competition between the distributors. The powerful manufacturer can, if he wishes, avail himself of the General Electric case where the small manufacturer cannot afford to do so.

Chief among objections to the existing law are the following:

(1) Some price cutting involves a theft of good-will. The manufacturer builds up the good-will by his advertising, and the price cutter often unfairly cuts the advertised price to give a specious appearance of cheap

service on his own part, and thereby acquires cheap advertising at the manufacturer's expense.

(2) The difficulty is in drawing the line between a lawful refusal to sell under the Colgate case and unlawful co-operation with distributors under the Beechnut case. This is aggravated by the frequent reference to the so-called "right of refusal to sell" as an absolute right. A refusal to sell, like other normally harmless actions, may become unlawful if used as a means of promoting other anti-social action.

(3) The advantage given the powerful manufacturer under the General Electric case above noted.

On the other hand it may perhaps be practical to render unfair and misleading price cutting illegal, without legalizing all price maintenance arrangements.

There is still much force in what Taussig suggested in 1916; namely, that our distributing system is enormously expensive and any means of cheapening it is to be encouraged. The "fair" prices demanded by "legitimate" distributors are likely to be high enough to encourage the inefficient distributor. The extensive advertising accompanying a price maintenance system is cumbersome and wasteful, though whether more wasteful than other methods of distribution is not easily determined. It is certainly a personal nuisance to many members of the public.

Doubtless there is no economic necessity of competition between the distributors of most individual articles. Competition between related lines of goods will not only largely protect the consumer, but will tend to maintain considerable price competition among distributors, even if price maintenance schemes be legalized.

The whole question is closely balanced. A thorough organization of existing facts by those competent to value their social-economic significance might perhaps throw more light on it. It seems like a case for laissez faire, which probably to the economist means to legalize price maintenance schemes, and to the lawyer might mean to leave the law alone.

The manufacturer ought to have more legal protection against unfair price cutting if it is practicable to differentiate such a practice from real competition in the price of distribution services based on efficiency.

D. M. Keezer.—The program of government control of business enterprise during the past fifty years has been beset with so many difficulties that not a few people are at present inclined toward the view that the entire undertaking has been relatively futile. An imposing array of particulars to support such a pessimistic view can be amassed.

In the field of federal anti-trust law enforcement recent judicial interpretations of the Sherman Act have encouraged corporate consolidation—an odd result to come from the enforcement of a law designed to remove obstructions to competition. Almost fifteen years after its creation the Federal Trade Commission still awaits a conclusive judicial ruling on its power to require corporations to furnish it with specific information deemed essential to an informed judgment of the performance of business enter-

prise, as provided by Congress in rounding out a program to protect the competitive system. Without such power any system to safeguard competition is gravely handicapped at the outset.

The recent trend of events in the field of government regulation of business enterprise is to many even more disturbing than that relating to anti-trust law enforcement. In addition to limitations imposed upon effective public utility regulation by judicial insistence upon valuation at "spot reproduction cost," such regulation has been seriously compromised by judicial shifts of jurisdiction over public utility service from the various states to the federal government without the imposition of federal regulation to compensate for that which the states have been held powerless to impose. Also state utility commissions have quite generally felt themselves restrained by judicial rulings from passing upon the reasonableness of contracts for services and supplies made by operating utility companies under their jurisdiction—a vital element of effective rate control.

There is, however, another aspect of the development of government control of business enterprise during recent years which may provide some comfort for those depressed by the failures in this field. This is found in the flexibility of the system of control which has been sanctioned by the United States Supreme Court, the body at present entrusted with the task of fixing the limits of the system.

The classification of enterprises held to be "affected with a public interest" and consequently subject to varying degrees of regulation has been greatly expanded, and a substantial degree of flexibility in the type of regulation imposed upon such enterprises has been sanctioned. The development along this line has been checked sharply by three recent decisions of the Supreme Court denying the constitutional power of the government to regulate the prices charged by theater ticket brokers, employment agents, and gasoline distributing enterprises.

The Supreme Court, however, has imposed no constitutional limitations upon government control of prices through direct competition with private enterprise as an owner and manager. Government control of gasoline and oil prices through direct government ownership and operation of a distributing agency has recently been held valid by the court while legislative regulation of such prices has just been held invalid. And Chief Justice Taft is author of the statement that the state may engage in "almost any private business if the legislature thinks the state's engagement in it will help the general public and is willing to pay the cost of operation."

When coupled with the federal anti-trust laws, the programs of government regulation and government ownership and operation which have received the sanction of the Supreme Court suggest that there is a relatively flexible legal (or perhaps better, constitutional) framework upon which to build an effective system of government control of business enterprise. There remains, however, the task of devising plans for the effective utilization of this framework.

While I do not pretend to know what such plans should include I suspect they might start with the recognition that anti-trust laws, regulation of

enterprises "affected with a public interest," and government participation in business enterprise all have a common objective which may be roughly described as the provision of products and services at reasonable prices. This recognition would greatly clarify the whole problem of government control of business enterprise. Such plans might also provide for the orderly application of these various devices, a procedure not generally followed in the past, which discloses no clear line of reasoning underlying the application of these methods of control.

Plans for the effective control of business enterprise, which would necessarily be flexible and adaptable to rapidly changing economic situations, would also include reliable standards to gauge the performance of business enterprise if they were to make any pretentions to completeness. Without such standards, of which there is a notable lack at present, much of our system of government control of business enterprise must continue to be based upon nothing firmer than careful speculation.

Since, viewed as a whole, there seems to be a rather flexible legal framework upon which to construct an effective system of government control of business enterprise there is at least a chance that a carefully co-ordinated set of plans directed to that end might have some influence on the future control of economic activity.

Among others, I. Leo Sharfman, of the University of Michigan; Myron W. Watkins, of New York University; Underhill Moore, of Columbia University; and Ralph Fuchs, of Washington University, St. Louis, took part in the discussion.

WALTON H. HAMILTON.—The discussion seems to me to indicate that, while we shall never be able to crowd the relation of economics to law into an academic formula, there are innumerable points of contact between things economic and matters legal. In a single specific problem, Mr. McLaughlin has shown the presence of interrelated legal and economic factors. In terms of the development of a great public policy Mr. Keezer has revealed their inseparable presence. In connection with a single, simple everyday occurrence, such as cashing a check, Mr. Moore has revealed a system of use and wont, and departures therefrom, that ramifies even beyond economics and law. These are but three of the many different situations which can never be unlocked to our understanding by a single discipline alone.

But here and elsewhere the interrelations are not limited to the subjects in our title. The discussion makes me wonder if the topics and problems with which we are engaged can really be crowded into our convenient academic concepts. In economic development isolation gives way to exchange, which is followed by integration. In the social studies the day of isolation is past; today we are exchanging ideas across many an academic frontier; perhaps soon the separate studies will represent only a division of labor for a study of the common problem of man in society.

PRICE STABILIZATION

By O. M. W. Sprague

Harvard University

Money credit and price problems have been often discussed at meetings of this Association and these topics will doubtless be found on many future programs. If fifteen years hence, the records were to show during the intervening years a course of prices which without conscious effort to that end had been exceptionally stable, free from secular trends and also from decided short time fluctuations, it could be confidently presumed that the period had been one of conspicuous economic tranquility, free from decided disturbances and presumably marked by decided progress and increasing economic well-being among all classes in the community. Note that I say price stabilization secured without conscious effort to that end, because it is the purpose of this paper to inquire whether it is possible to secure by direct efforts to maintain price stability those advantages which stability coming of itself would undoubtedly reflect. Or to state the matter in another way, I shall undertake in this paper to suggest monetary measures and credit policies designed to maintain a maximum degree of stability in the commodity price level and also at the same time to indicate certain limiting conditions to which in a program of complete price stabilization is apparently subject. The exposition must necessarily be of a summary character but I venture to think that some gain in understanding may be derived from a succinct, comprehensive treatment of this intricate problem.

For the purpose of analysis, it is convenient to distinguish various diverse sets of influences and types of change to which the general level of prices is subject. These changes may be classified as follows: long period or secular price trends; changes in relative price levels of different countries required to maintain equilibrium of payments; cyclical price changes; and finally, price fluctuations incident to considerable changes in demand for commodities and services and to changes in methods of production, costs, and location of industry, and variations in harvests. Here at the outset, it is most important to insist that this or any other classification of price changes has serious, practical limitations. At any given time or place, prices may be subject to several and perhaps to all of these various influences. The significance of particular price movements can seldom be clearly determined and consequently, the advisability of taking measures to reverse such tendencies will, except in extreme cases, be far from self-evident. Price instability

may and often has been a cause of economic instability but equally certain is it that economic instability occasions some measure of instability in the general level of prices as well as in prices of particular commodities. And it is not certain that enforced or managed price stability, even assuming it to be possible, would contribute in all circumstances to general economic stability.

Secular Price Trends—I open the discussion with an examination of the possibilities of overcoming secular or long period price trends because variations of this general character seem to be most definitely susceptible of control. Assuming the maintenance of the gold standard now happily restored throughout most of the world, it will be generally agreed that the average level of prices for any given decade, say from 1935 to 1945, will be determined by the amount of monetary gold and the volume of currency and credit resting upon that gold. If a rigid mechanical relationship between gold and the volume of the purchasing medium obtains during those years, the level of prices will exhibit a rising trend if supplies of new gold are abundant, a declining trend if the production of gold is not maintained. It would be a mere chance occurrence in the nature of a windfall for the world at large if supplies of gold happened to provide the basis for a purchasing medium that did not subject the course of prices to secular or long period trends.

For the future as in the past, the amount of monetary gold will be a most uncertain quantity and consequently, under monetary and banking arrangements which impose a rigid relationship between gold and the purchasing medium, secular price trends are inevitable. But, happily, it is not essential to ensure the satisfactory functioning of monetary and banking systems that any particular proportion between gold and the purchasing medium shall be maintained without change for indefinite periods. Monetary changes in the past have been frequent enough, some good and some the reverse. Desirable monetary changes have commonly been designed to meet particular defects in the administration of currency and credit. They have not been directed toward rendering possible or facilitating such adjustments of the supply of the purchasing medium to varying supplies of gold as might serve to lessen or eliminate secular price trends. Let it become generally recognized throughout the world that it is desirable to free the course of prices from close dependence upon gold stocks and the general character of the measures that should serve to counteract long time price trends in either direction can be readily indicated.

I take first for consideration the simpler and perhaps more unlikely case of a superabundance of gold in the years ahead. The employment of gold coin or of gold certificates where paper money is preferred for hand-to-hand use together with rising reserve ratios in banks of issue

would serve to absorb a huge additional amount of gold at the existing level of prices of different countries. In the United States, for example, notwithstanding the disproportionate share of monetary gold which it still holds, thanks to its complicated currency and credit arrangements, it is possible to absorb further gold accretions of at least two billions of dollars and completely neutralize the power of such an inflow to bring about expansion in the purchasing medium. The following means of absorbing surplus gold may be mentioned in this connection: calling up the unpaid portion of the capital of the Federal Reserve Banks; lengthening the time schedule for credit to reserve balances of member banks on items collected by reserve banks; designation of additional cities as reserve or central reserve cities; changing the method of computing net deposit liability of member banks which would transfer to demand deposits those time deposits which are only nominally of a savings character; transfer of government deposits from depository to reserve banks; reduction in total earning assets of reserve banks; substitution of gold certificates for the six hundred and fifty millions of national bank notes now in circulation; and finally, retirement of the United States notes and perhaps also of the silver certificates. Evidently the United States is in a position to do its full share in offsetting the effects of any extraordinary increase in the supply of gold. Means are readily available. The real obstacle is the common preference of the business community for rising prices and low rates in the money market.

Turning now to the case of stationary or declining gold production, we are confronted by a problem that involves greater difficulties and one as to which the range of action is doubtless subject to more definite limitations. But here, also, much can be accomplished if the will to act is present. As larger amounts of gold may be used as currency and locked up in bank reserves when gold is in abundant supply, so also within wide limits it is possible to economize gold both as currency and in bank reserves in the event of a gold shrinkage. There is no particular ratio between gold on the one hand, and currency and credit on the other, that is needed to ensure safety and the satisfactory functioning of the banking system of a country. Gold reserves are needed to inspire confidence, to provide the means of settlement of foreign balances, and finally, to place a limit upon the amount of additional credit that may be extended upon the acquisition of additional gold, but obviously this last is a consideration that loses weight in a period when new gold is in scant supply.

Taking the United States again for illustration, a succession of reductions in the required proportion of gold to reserve bank liabilities would not be a matter of serious concern calculated to weaken confi-

dence in the strength of our banking system. After all, the strength of a banking system is measured by the character of the loans and investments of the banks, not by the possession of a little more or a little less gold. Far better a price level ten or fifteen years hence here and elsewhere at about present levels and 25 or 30 per cent gold ratio at the reserve banks than a much higher ratio and a much lower price level.

Statutory requirements of a definite minimum reserve ratio against currency and deposits obviously place limits upon possibilities of economizing gold in the event of scanty supplies. In this country, through the Reserve Act and its amendments, a given amount of gold will support a larger volume of currency on deposit credit than formerly but a definite limit of expansion still appears in the requirement of specific reserve balances in the case of member banks and in the minimum reserve ratio against both notes and deposits of the reserve banks. In England, also, the prescriptions of the Act of 1844 have been slightly relaxed by recent legislation but elsewhere (the 35 per cent minimum ratio of the Bank of France is a notable instance) we find a general tendency to introduce statutory provisions that impose a definite relationship between gold stocks and the aggregate volume of credit. To meet the contingencies of a shrinkage in gold output if a declining price trend is to be escaped, a public opinion must be developed favorable to the relaxation, if not the elimination, of minimum reserve ratios.

To permit needed economy in the use of gold in the future, positive legislation may be needed in this and other countries. At present, there seems to be a very real danger that policies may be adopted which will lock up additional gold. In this country, for example, the retirement of the national bank notes in 1930 when the bulk of the bonds bearing the circulation privilege becomes payable has been urged. These notes require no gold backing but if their place is taken by Federal Reserve notes, a gold reserve of at least 40 per cent of their amount will be required and a still larger amount of gold will be rendered unavailable if the reserve banks do not hold sufficient cover in rediscounts and acceptances to make up the balance. Unless provision is made for the issue of Federal Reserve bank notes which require no gold backing, it would seem clearly inexpedient to adopt a policy which would make a quite unnecessary and possibly undesirable drain upon monetary gold stocks.

Minimum reserve ratios are particularly objectionable because they necessarily limit available gold to such amounts as are in excess of such requirement together with the further amounts that can be set free by the very limited possibilities of currency and credit contraction at any given time or place. Required reserve ratios tend to induce

a scramble for gold among central banks and work against the establishment and steady maintenance of free gold markets. And it cannot be too strongly emphasized that the avoidance of scrambles for gold and the maintenance of free gold markets are absolutely essential to render a policy of economy in the monetary employment of gold both safe and practicable.

Finally, it is to be noted that no single country can go far in the execution of a policy designed to check a secular price decline. It would be faced not only by a continuous loss of gold but also by a persistent depressing situation for its exporting industries. A co-operative spirit among central banks with a common objective, a spirit similar to that which has been manifested in bringing about the return to the gold standard, is indispensable if the disturbing influences of long period declining price trends is to be moderated. And even though co-operative policies are adopted by central banks and gold restrictions on credit are made more elastic, the counteraction of declining price trends would still involve difficulties and complications that would require experienced and farsighted management. At any given time or place, it will always be a difficult matter to distinguish the secular trend of prices amid the confusing variety of other influences which are responsible for price fluctuations. In general, however, it may be presumed that a persistent and world-wide price decline may be taken as fairly conclusive evidence that the course of prices is being positively and undesirably affected by an inadequate supply of gold.

Relative Price Level—There is some danger that secular price trends may not be clearly distinguished from price changes that are peculiar to single countries or a limited number of countries similarly situated, the price levels of which may be subject to long period changes that are entirely independent of the abundance or scarcity of gold. Even the entire elimination of secular price trends does not signify the elimination from time to time in various countries of very considerable price level changes that might extend over considerable periods of time. The financial and trade position of a country relative to other countries may experience decided changes and the maintenance of payment equilibrium may involve for that country material modification of its level of money prices. In borrowing countries a relatively high price level obtains but, when interest and payments on principal come to exceed new borrowing, a decline in the price level relative to other countries is inevitable unless quite exceptional productivity and foreign demand combine as offsetting influences. Reparations and interallied debts furnish another instance. Efforts to maintain a given level of prices in either the paying or receiving countries must obviously greatly

enhance the difficulties of making settlements. Some changes in relative price levels of different countries are a natural and necessary consequence of changing economic and financial relations.

Cyclical Price Changes—I now turn to cyclical price changes and here I can do little more than restate the position which I developed in a paper read at a meeting of the Association some eight years ago. When prices have been rising rapidly and there is evidence of widespread speculative buying in commodity markets and labor is fully employed, it is imperative that central banks take energetic measures to restrain further credit expansion. And this policy can be made effective since at such times it is certain that no considerable additional supplies of credit can become available except through the extension of additional accommodation by banks of issue. The problem remains for consideration, however, whether central banks can do more than this, and, at an earlier stage, upon less definite evidence of the incubation of a boom, take measures to impose restraint; and here, I must frankly say that I do not think our experience furnishes a positive guide to action.

Moderate price advances or moderate price declines may reflect a wide variety of conditions and consequently to counteract either an advance or a decline at any given time may be advantageous or the reverse. We cannot determine the matter from the course of prices alone. Extreme and persistent price changes in either direction may well be counteracted with advantage to the community. Moderate changes in prices can be taken at most as only one factor in the determination of credit policies. It is not enough that in the recent years there may have been fairly close correlation between reserve bank policies, price movements, and business activity. In some measures, reserve policies have been timed on the basis, not of prices alone, but the analysis of all other factors bearing upon the industrial and financial position. We cannot say that because an easier money market in the midsummer of 1924 contributed to price stability and assisted business revival that similar satisfactory results would have been attained if that policy had been adopted some months before. Economic adjustments incident to large changes in demand or in supply affect not only particular prices but also the price level and it is by no means certain that a credit policy largely influenced by slight changes in the price level would facilitate necessary adjustments. When such adjustments have been initiated, liberal credit may facilitate the process but there is danger that an early application of such assistance will rather serve to defer the process of adjustment and perhaps render it more difficult.

Finally, there remains for mention the possibility that it may be desirable at times, on account of particular excesses in the employment

of credit, to impose restraint even though prices are tending downward. Stock exchange activities seem to afford a recent instance and also perhaps installment sales financing and building activities. Such particular aborations may reach serious dimensions in the absence of a general advance in prices. And they suggest that price changes at times must be disregarded in the determination of credit policies.

In view of the diversity of causes and consequent uncertain significance of slight changes in the price level, it would seem to be desirable that any program of price stabilization should allow for what may be called a margin of tolerance. Fluctuations in price of, let us say, five and perhaps even as much as ten points above or below a level that had manifested a fair degree of permanence might well be regarded with indifference requiring no particular action. It should be noted that this limitation to decided changes in prices would greatly facilitate the execution of a stabilization policy. The relationship between changes in the volume of credit and currency and price changes are not sufficiently exact and immediate to permit a definite determination of the measures that would serve to offset a change of a few points in an index number. Under different circumstances, the effect of a given amount of contraction or expansion in the volume of credit might range all the way from complete ineffectiveness to the initiation of a decided price movement.

In the execution of a stabilization problem, appropriate means of measuring the course of prices must be employed. That any single index number will serve all purposes seems doubtful. To measure secular trends and cyclical fluctuations, a wholesale price index which includes many commodities, such as that of the Bureau of Labor, seems inadequate. A general purpose index, such as that which has been constructed at the Federal Reserve Bank of New York, does not appear to be sufficiently sensitive, while basic commodity indices are apparently unduly so. For the particular problem presented by price changes required to maintain exchange equilibrium a special index is required, an index which in some way measures general changes in unit money costs of production. Perhaps such an index might be based upon a selection of those commodities which are neither exported nor imported. An index of this character would roughly measure the changes in money costs that may be required to maintain the equilibrium of payments with other countries.

For a number of years now, measures directing the Reserve Banks to use their powers to maintain price stabilization have been before Congress. At hearings, first in 1926 and again in the spring of 1928, I expressed great doubts of the advisability of such amendments to the Federal Reserve Act. Assuming, however, definite recognition of

the limitations to which price stabilization is subject, I have reached the conclusion that a stabilization amendment might prove serviceable. In the administration of the Reserve System, there is danger that particular considerations, such as the protection and development of the acceptance market or treasury finance, may be given undue weight. Moreover, such a doubtful objective as money market stabilization is apt to bulk too largely in the minds of those charged with the administration of the Reserve Banks. A few general principles taken as desirable objectives should neither unduly hamper nor enforce action, and in particular, a price stabilization provision in the Reserve Act might well prove helpful in its bearing upon future monetary legislation and in the development of co-operative policies and arrangements with foreign bank officials.

LONDON AND THE TRADE CYCLE

By R. G. Hawtrey

Exchange Professor, Harvard University

The trade cycle is the subject of such persistent and voluminous controversy that it would seem difficult to say anything about it with hope of gaining general acceptance. Nevertheless the main characteristics of the cycle are known empirically, and are not dependent upon any particular theory of its nature and causes. If controversialists did not agree on what these main characteristics are, then they would be open to the criticism that their differences really arose from their not all discussing the same thing.

If I had to describe the agreed characteristics of the cycle, I should sum them up as follows:

The cycle is a periodic fluctuation of productive activity. The period is several years. The fluctuation is international, affecting many different countries in the same sense at the same time. The fluctuation in productive activity is accompanied by a contemporaneous fluctuation in the price level, increased activity being accompanied by rising prices and reduced activity by falling prices.

Each of these propositions requires to be qualified in certain respects, but the necessary modifications of them would not impair their general validity. It may be maintained that the fluctuation in productive activity would occur without the fluctuation in the price level or vice versa. But if so the result would be something different from the trade cycle discovered empirically before the war.

Experience since the war has shown that the fluctuations of productive activity and the price level (along with many consequential phenomena associated with the trade cycle) may occur in one country isolated from all others and may occur irregularly at intervals of no more than a few months. Such fluctuations are not examples of the trade cycle.

The characteristics I have attributed to the trade cycle are not all independent of one another. In particular the international character of the cycle is not independent of the fluctuations of the price level. When a number of countries have a common metallic monetary standard, their respective price levels are linked together, and tend to move up and down together. This tendency is modified by changes in their mutual balances of payments, but the allowances to be made for such changes, under the conditions existing in the century before

1914, were not such as to invalidate the general principle that the price level reckoned in terms of gold was an international rather than a national matter.

This aspect of the trade cycle at any rate was bound up with monetary policy, and monetary policy means credit policy. In the first half of the nineteenth century it was already true that in the civilised world movements of the precious metals influenced prices not directly but through credit. That is to say an inflow of gold into any country raised prices, because it induced an expansion of credit; an outflow of gold lowered prices, because it induced a contraction of credit.

If any country expanded credit too much in comparison with its neighbours, it would lose gold and would be led to contract credit. One that contracted credit unduly would gain gold, and would be led to expand credit. The general effect was to compel all the countries with a common metallic standard to keep pace with one another in the expansion and contraction of credit.

The cyclical fluctuations of the price level were the visible manifestation of cyclical alternations of expanding and contracting credit. These credit movements occurred in the group of gold-using countries (or before 1873 in the gold- and silver-using countries) taken as a whole or as a unit. Indeed it was the credit cycle that attracted attention before the other phenomena of the trade cycle. In Lord Overstone's day and for long afterwards the subject of inquiry was not the fluctuations in productive activity or in the price level, but the periodic financial crises which marked the breakdown of an excessive credit expansion. The fluctuations in productive activity and in the price level were regarded as subordinate to the credit movements.

That view is no longer universally accepted. But I believe that even those who do not accept the monetary theory of the trade cycle, do almost invariably recognize that the credit movements are a very important feature of its progress.

The nineteenth century credit system is not to be interpreted as consisting of a number of countries each exercising independent control over credit within its own limits, and being led by the influence of gold movements to accommodate its credit policy to that of the others. It is rather to be regarded as a centralised system responding to a leader. The center was London and the leader the Bank of England.

Credit control depends on the fact that banks create credit by lending. Their assets and liabilities increase and decrease together, and their liabilities are used as the means of payment. If the amount of borrowing from banks is increased or decreased, the supply of the means of payment is increased or decreased.

The banking system of London became responsible for a disproportionally large share of the short-term lending of the world. Everywhere international trade was financed with bills drawn on London banks and accepting houses. Exchange banks with head offices or branches in London were constantly buying bills on London from their customers in other countries, and they had the choice of either holding the bills themselves or selling them in the London discount market. Just because the bills could be sold at any time in the market, it was often convenient to hold them, and the exchange banks might be holding sterling bills against deposit liabilities in other currencies. The amount of deposits in London itself was swollen by the transactions of the merchants whose financial arrangements were centralised there.

Consequently the amount of bills on London was large in comparison with the short-term lending at any other centre. And these bills represented lending to *merchants*. Merchants are the class of traders most sensitive to credit conditions. A producer's working capital is dictated to him by his output, and no consideration of the rate of interest to be paid on bank advances will count for much against the paramount need to keep up output as near as possible to capacity. To a merchant on the other hand working capital means no more than his stock in trade for the time being. It can be varied without much inconvenience within wide limits, and the cost of borrowing is one of the principal factors in determining the direction and extent of those variations.

A large proportion of the international commercial business of the world was financed from the London discount market. If the Bank of England put up Bank rate, there were merchants in every quarter who became less willing to buy and more willing to sell, and producers everywhere felt a slackening demand. If credit in London became easy, buying was stimulated all over the world and activity was increased. In the one case prices in world markets would fall; in the other they would rise.

Other countries, while they had to exercise so much credit control as was necessary to adapt their own conditions to world credit movements, usually found their task more than half done for them. The world credit movements were initiated in London, and tended to spread to all other centres without further action. Only if some resistance arose against the tendency to spread, was any action by authorities outside England called for. Undoubtedly the need for such action was not infrequent. Undoubtedly also the action taken by the Bank of England was often dictated by occurrences in other countries. The Bank was not so autocratic as to be able to disregard credit movements starting abroad, especially when they approached or attained the magnitude of financial crises. But so far as any intentional or systematic regula-

tion of credit was concerned, no one else attempted to take the lead. Credit policy was in the hands of the Bank of England.

And credit policy was guided entirely by the gold position. That indeed was the intention of the Bank Charter Act of 1844. The Bank stood over a reservoir which was always collecting the world's disposable gold. Therefrom was to be met the gold-using world's absorption of money, and the absorption of money in every country depended ultimately on the regulation of credit. In part the absorption of money meant the absorption of actual gold coin. And in so far as paper money was used, any increase in circulation would in general demand, as a matter either of law or of policy, an increase in gold reserve.

In England itself the Act of 1844 required the Bank of England note, so far as any issue in excess of the fiduciary limit was concerned, to be backed by a 100 per cent gold reserve. In some other countries, such as Germany, Russia, Norway, and Japan, the same principle was adopted with some modifications in the direction of elasticity.

An expansion of credit in the gold-using world would tend to be followed after an interval by a proportional expansion in the monetary circulation, and a contraction of credit by a proportional contraction.

If the Bank of England found a redundant supply of gold in its vaults, it would get rid of it by lowering Bank rate and starting an expansion of credit. A shortage of gold would be dealt with by a rise in Bank rate and a contraction of credit.

In principle that was the method followed. But the practical application of it was overlaid with many complications of detail. It was not possible to make any regular or comprehensive survey of the world's gold resources in comparison with its needs. The indicator relied on was the Bank of England's own reserve, that is to say, the notes held in the Banking Department.

All the time there were disturbing causes at work which occasioned shipments of gold from one country to another. The progress of a credit movement in one country would diverge somewhat from the world course; in another there would be a temporary modification of the balance of payments. The resulting gold movements were not negligible in comparison with the Bank of England's reserve, and might temporarily interrupt a policy of expanding or contracting credit.

Nevertheless a mere shifting of gold from one country to another would not affect the gold position as a whole. If there were a redundancy of gold, some country or countries would be holding too much; if there were a shortage, some country or countries would be holding too little. And the residuary effect would be felt in the Bank of England's reserve, as soon as these other countries rectified their position.

For all countries had points of contact with the London credit system, whatever their points of contact with one another might be. Their purchases and sales of foreign exchange were mainly purchases and sales of sterling bills; their purchases and sales of gold were effected in the London market. London was the dumping ground of surplus gold; London was the source of supply to meet any gold shortage.

These gold movements made the progress of a credit expansion or a credit contraction irregular and discontinuous, but the irregularities were never so great as to obscure the general trend for any considerable period. The credit movement would always be resumed till equilibrium was restored in the world gold position. The process of inducing the absorption of gold for the purposes of monetary circulation by means of a credit expansion is a slow one; and so also is the contrary process of getting back currency out of circulation by means of a credit contraction. Interruptions tended to make these processes slower still. The effect on the monetary circulation lags far behind the credit movement from which it proceeds. And in virtue of this lag, when the moment comes to change from expansion to contraction or vice versa, the accumulated effects of the past tendency have to be gone through before the reversal can make itself felt. The absorption of currency persists some time after the contraction of credit has begun; the return of currency from circulation persists some time after the expansion has begun. Thus each credit movement in turn has to rectify a substantial loss of equilibrium in the gold position. The expansive policy has to deal with a substantial redundancy, the restrictive policy with a substantial shortage.

Professor Pigou has argued, in the chapter on "Discount Policy" in his *Industrial Fluctuations*, that the gold position supplies as prompt an indicator for the guidance of credit policy as the price level. He has compiled a table showing, for every year from 1850 to 1911, the average proportion of the reserve to the liabilities in the Banking Department of the Bank of England. On comparing these data with the annual average of Sauerbeck's index numbers of prices, he points out that the maximum price index does not as a rule tend to precede the minimum proportion, nor the minimum price index to precede the maximum proportion.

The comparison is an interesting and suggestive one. The very fact that the reserve proportion shows cyclical variations corresponding closely with those of the price level illustrates in a most convincing way the close connexion of the Bank of England's credit policy with the trade cycle.

But I venture to suggest that Professor Pigou's inference from his data is mistaken. If a relaxation of credit took effect *immediately* in

a reduction of the proportion, then the maximum proportion would coincide with the beginning of an expansion. And if a restriction of credit started an immediate increase of the proportion, the minimum proportion would coincide with the beginning of a contraction. But that is not so. The relaxation of credit begins when the proportion reaches what the Bank of England and the City regard as a safe figure. But for a time and possibly for a long time the proportion goes on increasing. Eventually it reaches a maximum, and then it begins to decline. But the Bank does nothing to restrict credit till the proportion has fallen below the safe figure. By that time credit expansion has made considerable headway, and the rise of prices is in full swing.

Similarly after a credit contraction has been initiated the decline of the reserve proportion continues for a time. And after it has passed a minimum and begun to recover, credit restriction is apt to be continued till the proportion has increased up to the safe level, even though prices may be falling and depression be rife. Often the contraction caused a financial crisis either in London itself or in some other part of the world.

To regard the crisis as the culmination of the active phase of the cycle is a mistake. The crisis would break out *after* the fall of prices had already begun. In 1907 the price level reached a maximum in May and began to decline. The crisis broke out in October, and the Bank rate rose to 7 per cent in November and December. Really cheap money, 2½ per cent, began in May, 1908, after prices had been falling for a year. Cheap money continued till the autumn of 1909. The bank rate was raised to 5 per cent in October when the price level had been rising for some months. And a rise to that figure so early in the process of recovery was itself an exceptional occurrence as compared with other cycles.

In reality the statistical evidence fully bears out the general principle that the state of gold reserves gives very tardy guidance in the regulation of credit. The movements of the price level give much more prompt evidence of the state of affairs, but even the price level lags, or may lag, behind the credit movements. An expansion or contraction of demand is felt in the first instance in an increase or decrease in the volume of sales; the rise or fall of prices follows, and may or may not follow promptly.

An expansion or contraction of demand in terms of currency units is a purely monetary phenomenon. Purchasing power is created by the banking system, and it is within the power of the banks to decide whether they shall so accelerate the creation of credit as to bring about an expansion of demand, or so retard it as to bring about a contraction. The effects of the action taken by them are complicated by

variations in velocity of circulation and in volume of output or of sales. Velocity tends to increase when credit expands and prices rise, and to diminish when credit contracts and prices fall, and demand or the consumers' outlay is thereby made more sensitive than it would otherwise be to credit. Output on the other hand is stimulated when credit expands and falls off when credit contracts, and these variations tend to narrow the extent of changes in the price level.

In the course of the trade cycle productive activity was highest when prices were rising, and lowest when they were falling. Inasmuch as activity was prolonged beyond the time of maximum price level, and revival was only gradual after the minimum price level was passed, it is approximately true to say that high prices coincided with high productive activity and low prices with low productive activity. Clearly this was a monetary anomaly. Ought not increased production to be accompanied by low prices and decreased production by high prices? It might indeed be contended that, where the variation is not in productivity but in productive activity, purchasing power ought to expand and contract in proportion to output, so that the price level would be unchanged. But no intelligible principle would justify an expansion of purchasing power *more than in proportion* to output at a time of activity or a contraction more than in proportion at a time of slackness. This was only possible because the banking system allowed credit to continue expanding when production was active and to continue contracting when production was slack. It did so because the Bank of England was guided by the gold position. Had the Bank disregarded the gold position and regulated credit by the state of business and the price level, it would have acted more promptly. Credit would have stopped expanding when production in the industrial world approached close to capacity, the subsequent rise of prices and feverish activity which marked the culmination of the cycle would have been avoided, and the contraction of credit which restored the depleted gold reserve by causing a decline in the price level would have become unnecessary.

Since the war there has been no trade cycle of the old type. Fluctuations in productivity there have been, but they have been irregular and mostly short, and have not synchronised in different countries. In particular we have seen seven years of great prosperity in the United States, broken only by transitory and slight reactions, contemporaneously with a depression in England severe and persistent beyond all precedent.

There could not be a trade cycle so long as there was no link between the price levels in different countries. With the general return to the gold standard that link has been restored. Is the result to be a reversion to the trade cycle?

If credit is to be regulated with reference to the gold reserves, the credit cycle will inevitably revive. It may be contended by those who do not accept the monetary view of the trade cycle that the credit cycle is not the trade cycle, and that even if the former were eliminated the latter would persist. But whatever other causes of fluctuations in productive activity may be at work, we can at any rate say with confidence that a credit expansion tends to stimulate activity and a credit contraction to depress it. If there are non-monetary causes at work to bring about depression, a credit contraction will intensify them. If such causes were at work in the pre-war trade cycle, they *were* intensified by credit contractions. If the credit contractions could be saved, the depressions would be less intense.

But credit contractions can only be avoided if credit expansions can be avoided. Expansions without contractions would mean an indefinite depreciation of the currency unit. The essential requirement is to stop credit expansions at an earlier stage. The critical moment is that at which production is getting near capacity and any further expansion will spend itself in a rise of the price level.

But who is to be responsible for taking this action? It is still true that London predominates in the international credit system. But in one respect there has been a profound change. America is now equipped to play a part. Not only have the wealth and economic power of the United States grown relatively to those of the rest of the world, but a central banking system has been established there. But just because the economic resources of the United States are so great the credit system of the country tends to look inwards rather than outwards. This is all the more so in consequence of the protective tariff. The external trade of the country is a by-product.

It may well be therefore that the leadership in regulating the world credit system will remain with London. In so far as that is so, the principles on which the Bank of England is to act in future are a matter of universal concern. On that matter a decision has been taken by Parliament in the current year.

Under the Currency and Bank notes Act which came into operation the twenty-second of November last, the entire paper currency of the country is once more placed in the hands of the Bank of England. The principle of the fixed fiduciary issue, established by the Act of 1844, is retained, but with an all-important modification. The fiduciary issue can be increased or diminished at any time by the Treasury at the request of the Bank. And, though an increase in the fiduciary issue can only be made for a limited period, and cannot extend beyond two years without fresh legislation, it was made clear by ministers in introducing the bill that this power is not to be regarded as a mere emergency

expedient, but to deal with such a contingency as a world scarcity of gold.

Thus the Bank of England is no longer bound by law to conform its credit policy to the gold position. It is to be allowed sufficient freedom in respect of the fiduciary issue to exercise that more far-seeing credit regulation which is required to eliminate the monetary fluctuations characteristic of the trade cycle.

Up to the present the international gold standard has not been fully restored to working trim. Some of the monetary reconstruction schemes of recent years have hardly shown an adequate appreciation of the essentially *international* character of the question of the purchasing power of gold and therefore of th demand for gold for monetary purposes. The intense depression arising in England and some other countries from the appreciation of their currency units has not yet been alleviated. A little time must therefore elapse before future credit policy can be adequately tested. That when the time comes, policy should be so guided as to avoid the recrudescence of the credit cycle, is in the interest of every country with a currency based on gold.

FEDERAL RESERVE POLICY AND BROKERS' LOANS

By H. L. Reed

Cornell University

Whenever there are discussions regarding the desirable guides to reserve credit policy, the diversity of viewpoints is almost bewildering. But on analysis the varying suggestions can be attributed to two antagonistic conceptions. In the first place, there is the opinion that the problems demanding solution usually present themselves in distinct and exceptional settings and that each must be handled on its own merits, more or less regardless of experience and long-time tendencies. Spokesmen of this way of thinking assert that the elements of our credit problems are always combined in different proportions and that it is not possible in advance to lay down a rule or formula according to which they can be resolved. They hold that central banking administration is primarily a task of applying ripe judgment and wise discretion to the continuously recurring disturbances of our money markets.

The other, and opposing, thought insists that a central banking system has only a few, but, nevertheless, important, responsibilities to discharge, and that ordinarily the discharge of these responsibilities does not demand the reversal of policies developed in experience. While it is admitted that administration cannot be made entirely schematic or formula-observing, it is believed that the various short-time adjustments are of secondary importance to underlying trends and should be properly harmonized therewith. This view further asserts that most money market disturbances have a way of correcting themselves, and that the magnification of these disturbances which inevitably results from regarding each new situation as distinct and peculiar, and the continuous turning aside of central banking powers to mitigate them, is likely to result in a faulty long-time policy.

In the administration of the federal reserve system the most serious recent perplexity has been the rapid growth of brokers' loans. It ought accordingly to be enlightening to estimate whether the apparent inability of the reserve banks to curb their, perhaps, excessive growth has been due to incorrect analyses of particular situations; or, whether the difficulty is to be attributed to failure to calculate accurately the long-time rate of growth in the volume of credit to which trade is legitimately entitled. This appraisal might incidentally be expected to indicate whether the brokers' loans problem demands legislative addi-

tions to the present powers of the reserve banks, and whether their control demands a special central banking technique.

To answer these questions, it is first necessary to agree tentatively upon a means of determining when street loans have assumed undesirable magnitudes. This criterion can perhaps be found by examining the various objections to their recent volume.

Leaving out of account the assertion that the rapidity of their growth clearly has been contrary to the intent of the reserve act, an argument which tends to become unduly legalistic, we have the following:

In the first place, it is held that they have resulted either in depriving commerce and agriculture of needed credit, or of increasing unduly the cost of credit to the farmer and the business man. Those who make this argument assume that street loans and security operations absorb banking funds to the detriment of other business and that credit that thus finds its way to the financial centers does not come to permeate the general credit fabric, except perhaps by devious, expensive, and indirect processes. Relatively high rates on farm mortgages as well as the failure of farm land and commodities to participate in the price advance of securities is accordingly held to be, in part, a manifestation of the seepage of an excessive volume of bank credit into stock market channels.

A second objection is found in the mere fact of the present height of stock prices. While few are willing to maintain that in the case of any individual stock the Reserve Board and the district directorates can properly substitute their opinion for that of those who hazard their funds, it is contended that the technical unsoundness of the present market as a whole can be demonstrated. The relationship of stock prices to bonds, as well as to present earnings, is held to be permanently untenable, as also the relationship of dividends to carrying charges. While it might be admitted that stock market reactions of a moderate character need not inevitably produce any marked result upon the general business situation, it is contended that a distinction is to be made between mild, technical recessions in a few issues and violent collapses of a general character which might be communicated in a variety of ways to industry and other enterprise.

A third apprehension stresses the possibility that a continuation in the growth of security loans will, if unchecked, threaten the country's reserve supplies of credit. It is argued that when the public's speculative frenzy becomes aroused to such an extent as in recent months, the lifting of money rates is no sufficient corrective. Once buying for the sake of the rise becomes so general as to seem to ignore yields, costlier credit, at least for a time, will be withstood. In a bull market

the speculative appetite for credit seems almost insatiable. Those of this view take no comfort in the fact that the reserves of the reserve banks are now considerably above the legal minima. In the past year, from the autumn of 1927 to the autumn of 1928, the reserve ratio has fallen by about ten points, and there is no certainty that present reserve holdings are much in excess of the immediate requirements of the future. It has been calculated that the ratio of all our gold to the total deposits of our banking system no longer exceeds that prevailing in England and it is also pointed out that foreign banks still hold large deposits here which are subject to immediate and, perhaps, capricious withdrawal.

It is not possible here to examine completely the merits of these rival objections to the present volume of street loans. But it will perhaps suffice to indicate that many facts can be presented extremely embarrassing to the first two contentions. With respect to the seepage of credit from commercial and agricultural to security uses, it is rather difficult to show how funds diverted to the stock exchange centers can remain permanently absorbed in security operations. The proceeds of a security loan may be invested in the new issue of a corporation, and as soon as expended may be redistributed over the country by such processes as pay-roll disbursements and purchases of materials. If the proceeds of the loan are offered in exchange for a once-issued stock, the seller may be located in the very district from which the funds emanated. While the seller of the securities might employ the funds to purchase another stock and likewise the second seller, the time is likely shortly to arrive when the funds will return to agricultural or commercial uses. Although an increasing number of share turnovers at constantly rising prices might retain for the time being a larger supply of credit in security uses, it must be remembered, that at such a time business tends to adjust itself to this situation by altering its methods of obtaining credit. At any rate, from the close of September, 1927, to the end of September, 1928, brokers' loans in New York City increased by more than one and a half billions of dollars. If these funds had remained absorbed in trading in old issues, deposits of reporting New York City banks would be expected to show something like a similar increase. But there has been no such increase. During this period the increase in the total of time and demand deposits of New York City banks was less than forty million dollars.

Neither can the reserve banks be in a very comfortable position, if they are compelled to justify their curbing activities on the ground that the stock market has developed so weak a technical position as to threaten the security of general business. The reserve banks will

not accept responsibility for the accuracy with which a quotation expresses the intrinsic value of a particular stock. While they might insist that a distinction can properly be made between an inflated price for a single stock and for a whole group, it will be difficult to make this distinction real to a large part of the business public. Moreover, after a continued bull movement of four years, good arguments can be summoned to demonstrate that stocks as a class are now none too high. The upward movement of these years may plausibly be attributed to the belated adjustment of ownership equities to a new level of commodity prices; or to a downward trend in interest rates, which in turn may be explained on the grounds of gold imports, enlarged savings, technological improvements, or economies in banking methods. Even if the present height of the stock market could be characterized as excessive it would be embarrassing to inquire just when it became so, at least to the extent of indicating when a central banking system should take cognizance of it.

Clearly the position of the reserve banks will be more tenable, if they can deny responsibility for security developments as such and maintain that the growth of brokers' loans falls within their purvieu from the standpoint only of their influence upon the total mass of bank credit. If the problem be attacked in this way, brokers' loans assume primary importance according to whether they have shown a power to expand to such an extent as to nullify the reserve banks' efforts to confine the country's total mass of bank credit to the desirable quantity. If experience does show that brokers' loans in particular and security loans in general, have rendered it impossible to provide the country with the proper volume of credit, brokers' loans may be held to require special attention and to demand the conveyance of added legal powers to the reserve banks. If, on the other hand, it could be shown that the present impasse developed only out of a failure to restrict the country's mass of credit within proper limits, our decisions might be of another character.

All of this seems to make it necessary to answer the following questions: First, has experience indicated the rate of growth in the volume of member bank credit which is most conducive to the continuation of uninterrupted trade activity? Second, have the reserve banks been shown to possess adequate powers to encourage growth in member bank credit at approximately this rate? Third, if in late months the expansion in member bank credit had been confined to this rate of growth, could the recent situation have been avoided in which the reserve banks seemed temporarily to lose control of the credit volume? It is my opinion that each of these questions may now be answered in the affirmative with a reasonable degree of confidence. From this the

further conclusion would seem to follow that the brokers' loans problem has not presented a difficulty which could not have been avoided, in large part at least, by the application of the same statistically determined principles of credit control which are advocated for ordinary situations.

The first question, whether past experience has indicated the desirable rate of growth of bank credit, has, I think, been answered by Mr. Carl Snyder as precisely as could be expected in a problem of this complexity.[1] Despite the reaction of 1920, the period that has followed 1919 could certainly be characterized as one of high average prosperity. It is, therefore, not exactly a hit and miss solution to infer that this was a period in which the volume of bank credit expanded at a rate sufficiently rapid to meet industry's legitimate requirements. Of course this does not prove with finality that trade could not have attained a somewhat higher aggregate, without developing unsound conditions, if the credit supply had grown at a somewhat different rate. But there is other evidence somewhat confirmatory of Mr. Snyder's general position. It seems to be more than a coincidence that the average per annum rate of credit expansion in recent prosperous years has been substantially equal to the past secular rate of growth in the physical volume of trade. Furthermore, a curve for the period since 1896 depicting the excess of credit expansion above the estimated normal, agrees closely with fluctuations in his general price level. Bank credit expansion, exceeding 4¼ per cent per annum, has in the main corresponded with a rise of prices rather than with a proportionate stimulation in physical trade activity. Finally, since 1921 an increase in the rate of expansion above 4½ per cent has invariably timed with the development of business conditions which have finally led the reserve authorities to impose restrictive measures; whereas periods in which the annual rate of credit expansion have been less than this percentage, have been consistently followed by easing measures. Generally, throughout the post-war period, the tendency of bank credit to exceed or fall below the 4½ per cent figure would have given the reserve authorities clues to action, which would have preceded by intervals of six or eight months the action actually taken. Thus by the employment of Mr. Snyder's formula the necessity for restrictive rate-measures would have been indicated in the fall of 1922, instead of in the spring of 1923; in mid 1924 instead of early in 1925; in the fall of 1927 instead of alleviating measures at that time.

[1] Here and in the following pages I am referring not only to the numerous well-known publications by Mr. Snyder in scientific periodicals, but also, and more particularly, to some of his recent investigations, the results of which have not yet been addressed to the general public.

I suppose, however, the principal quarrel is not so much with those who would advocate a different rate of credit expansion as the desirable norm, as with those who would deny that there is any norm and insist that the characteristics of different periods vary so greatly as to call for quite distinctive treatment. Without discussing this last position in detail, it will perhaps suffice to remark that, even though its truth be granted, no means seem yet to have been discovered of determining the desirable degree of discretion which central banking directorates can safely exercise. It is inevitable that men face to face with temporary money-market disturbances will overstress the need of alleviatory action by central banking systems. By way of illustrating this point, we may take the 1924 situation. In the early summer of that year, member bank credit was expanding at a rate exceeding our 4½ per cent per annum. Despite gold inflows the reserve banks continued their "easing" measures to such an extent that at the close of the year credit was expanding at the rate of 15 to 18 per cent per annum. At the time this policy was defended on the grounds of averting business recession and of easing the gold strain on foreign countries striving to re-establish the gold supports of their currency systems.

If sufficient time were here available, I think the redundancy of credit in 1924 could be easily demonstrated. I personally attach a great deal of significance to the fact that in the third quarter of 1924, the volume of bank deposits and the activity of bank deposits, as expressed in terms of percentages of trend, moved in antithetical directions. The few other periods since 1880 in which similar antithetical relationships have prevailed have uniformly been of the sort that we now term either exceptional, or inflationary. Apparently, during the summer of 1924 bank lending power was being stimulated too rapidly to permit the average dollar of bank deposits to participate in the usual number of exchanges. That the process of easing the money market had been carried too far in 1924, apparently also became the general opinion in federal reserve circles. In the early part of 1925, the discount rate of the New York reserve bank was increased by ½ per cent, despite the fact that by the time of this action the rate of credit expansion was falling rapidly and in spite of the further fact that for the first time since 1920 the gold movement had turned against this country. The 1924 situation, moreover, seems to have loomed large in the mind of one of the two oldest members of the Board, who prior to that year had been an exponent of the vigorous and aggressive use of the reserve banks' open market powers. Because of the unwillingness of reserve banks to sell as readily as to buy government securities, he has recently expressed doubt as to

whether in the future open market dealings will become other than occasional incidents in reserve policy.

Assuming that the desirable per annum rate of growth in the volume of bank credit can be derived, we may pass to the next question, whether it is within the power of the reserve banks to control the credit activities of member banks. So much has recently been written about the processes by which open market and discount activities tend to operate in antithetical ways, that it is comforting to have an affirmative conclusion developed by statistical procedure. Here again we have a mass of evidence justifying a fairly optimistic conclusion. It seems to show rather clearly that in the last seven years a discount rate of 3½ per cent, or less, has tended to facilitate borrowing from the reserve banks and consequently to credit ease, whereas on the other hand a rate as high as 4 per cent tends to diminish slightly the willingness of the member banks to resort to the reserve institutions.

It is to be admitted that the uniform responsiveness of the rate of member bank credit expansion to a reserve discount rate departing from 3¾ per cent during all the period under survey, excepting 1928, appears somewhat startling. Member banks gain reserves by gold imports and lose reserves by gold exports. They also acquire reserve credit by sales of government securities to the reserve banks. In view of the fact that the last eight or nine years have been characterized by huge shifts in gold flows, in view further of the fact, that the reserve banks have made variable uses of their purchase operations, it might seem to be at best a mere coincidence that a rediscount rate exceeding a certain per cent should slow down the growth of member bank credit, whereas on the other hand a discount rate beneath a certain figure would uniformly accelerate the rate of member bank credit expansion. Nevertheless, the facts seem to show that the rate of member bank credit expansion tends to increase or diminish as the reserve rate is below or above a figure of about 3¾ per cent.

On further thought, however, the obedience of member bank credit expansion to this particular reserve discount rate does not seem quite so startling. Very seldom have we experienced serious manipulations of the discount rate without the previous or simultaneous use of open market purchases for the purpose of making the new rate effective. When the discount rate is to be increased for the purpose of restraining member bank borrowing, it usually will be felt desirable to contract security holdings. Otherwise member banks with deficient reserves might continue to obtain relief in other ways than by resorting to the reserve banks, such as by borrowing from private correspondent institutions. It therefore becomes necessary for the central banks to

mop up a part of the surplus funds on the market. On the other hand, when it is felt that member bank borrowing should be encouraged by lowering the discount rate, the central institution will be prompted to feel that more aggressive steps are necessary than mere rate reductions. Increases in open market holdings are therefore likely to precede or accompany reductions in rates.

Since an extensive gold movement can be expected to generate the forces which occasion the necessity of discount rate changes, it is therefore improbable that, on the one hand, gold imports will continue long without occasioning reductions in open market holdings; and that, on the other, gold exports will proceed far without indicating the desirability of increasing purchases of government securities. In spite of the human factors in management, it is therefore almost inevitable that, at a certain stage in the process at least, gold flows and open market holdings will tend to cancel each other. In this way, the statistical generalization becomes less surprising than at first it might appear.

It is of course not inevitable that the rate which will in the future tend to encourage the proper expansion of member bank credit will be precisely that which seems to have prevailed in the past. Experience is never indicative of future necessities save as in essential respects the future is to be analagous to the past. It is therefore admitted that a different rate may henceforth be required to maintain the healthy growth of member bank credit than that which experience seems to have established. I personally believe, that on the basis of considerations of profits alone, most member banks have underestimated the discount rate they can afford to pay. I believe it likely that in the future discount rates may have to be higher with reference to other rates than they now are, to prevent increasing resort to the reserve banks. Furthermore, pressure imposed upon member banks by reserve institutions, or, on the other hand, encouragement extended to them, does not reside solely in rate changes, and consists also of such other activities as advice, counsel, and direct refusal of application. It is inevitable that the extent to which an increase of, say, ½ per cent in the discount rate will be accompanied by other restrictive measures, will vary from time to time. It very well may be that the desirable rate will depart from that which experience seems to have established.

But such possibilities do not warrant the failure to employ what seem to be the teachings of experience. The disclosures of the past must be followed as long as they seem to produce desirable results. If a certain rate loses its potency, other rates must be substituted. The essential point is to recognize that, despite the limitations upon their powers, the reserve banks do seem to be reasonably well able to

accelerate, or retard, the rate of growth of member bank credit, and experience does seem to have supplied a rate which may serve as a point of departure in the future.

It may be objected that all this assumes trade to be uniformly obedient to credit, and that the reserve banks do not have it completely in their power to force credit upon member banks, as in turn, member banks have no means of compelling their customers to borrow. There is undoubtedly a great deal of truth in these contentions. I myself have been much fonder of asserting the permissive than the causal role of bank credit. But there is at least one important process developed in this country in the last few years by which reserve activities are likely to be communicated to member banks and these in turn to trade. At the present time banks do not find it necessary to establish any very large surplus reserves, as they have in more than a few pre-reserve periods. If they gain in reserves, they will employ surplus funds in the securities market, assuming that the commercial demand for credit remains unstimulated. The encouragement thus extended to the securities' market, if it goes far enough, is likely to react shortly upon general business, by other influences than the mere psychological. In these days of budgeting and forecasting, a rise in bond prices must tend to transfer to the present building and construction, projects which otherwise might be postponed. In short, by their ability to influence the securities market the reserve banks have it in their power to affect to a considerable extent the timing of industrial operations. They are not completely devoid of power to impede or accelerate unevenness in operations dependent upon the investment market. And this, I think, is about all the power to maximize the long-time results of trade and production which they do possess.

The third question relates to the recent course of brokers' loans. Did street loans become excessive because there was departure from the rule of a desirable rate of membr bank credit expansion? Or did they become unwieldly because of some inherent superiority over other credit demands? To answer these questions, we must agree as to when street loans in particular, and security operations in general, became excessive.

Here we have endless controversy in store for us. There are many who have been sounding alarm since the middle of 1922. They have pointed to the growth in member bank portfolios of real estate mortgage loans, to the shift from demand to time deposits, to the rapidity in the increase of street loans, to relative movements in the prices of commodities, bonds, farm land, and corporation stocks, as proof of the discrimination against commerce and agriculture in the credit

activities of our banks. On the other hand, plausible answers can be made to each one of these contentions. The shift from demand to time deposits is explained on the ground of the huge supply of savings seeking investment and the failure of savings banks to reduce their rates to depositors, during the period of declining yields on long-term investments; the long continued bull market in stocks on the previously indicated grounds of belated adjustment of ownership equities to a new level of prices and the reduction in capitalization rates. The growth of trading in securities is attributed to the inevitable funding of current debts by business corporations, during the period of declining money rates after the high levels reached in 1920; and the discrepancies between the movements of farm land prices and securities is explained by the assertion that the post-war period began with excessive prices for land and that agriculture throughout the world has become overdeveloped. Analysis of any one of these contentions is not possible here. But if the volume of security loans is asserted to have become excessive only when it began to threaten the ability of the reserve banks to preserve the supply of bank credit in general within desirable limits, an answer is possible. It was only in 1928 that the reserve banks seemed to lose control of the situation.

If we examine the evidence, we will find that there have been only three occasions since the reaction of 1920 in which member bank loans and investments tended to expand for any extended period of time at a rate greatly exceeding 4½ per cent per annum. The first was in 1922 and 1923; the second in 1924 and 1925; the third in 1927 and 1928. The first expansion of 1922-23 presented no great difficulty to the reserve banks from the standpoint of avoiding a run-a-way credit market. Only one discount rate increase by the New York bank, and that preceded by mild reductions in holdings of purchased paper, was imposed during this period. And the rate of credit expansion properly adjusted for seasonal influences, began to decline at approximately the very moment the discount rate increase was invoked. In 1922-23 industry was apparently mindful of the lessons of 1920-21 and was in no mood to resist credit pressure.

Neither did the reserve banks apparently find the 1924 situation threatening from the standpoint of their grasp on the credit market. At precisely the time member bank credit began to expand in excess of the 4½ per cent figure, the discount rate was *dropped* by ½ per cent, and this was shortly followed by another rate reduction. The discount rate was not even lifted above the low point of 3 per cent until after the rate of member bank credit expansion had reached the highest point attained in the post-war period.

Explanation of the ease with which the reserve banks combatted, or,

perhaps, corrected, the 1924 situation may again be attributed, in part, to the conservatism prevailing in the business community. The depressing tendencies of trade supplied an obstacle to speculation which, until at least the autumn of that year, easy money alone seemed unable to overcome.

Apparently flushed with confidence that belated measures of control would easily correct any permanent evils of credit excess, the reserve banks in the summer of 1927 undertook to aid European and American trade and agriculture by lowering their discount rates in the face of a rate of member bank credit expansion exceeding 4½ per cent per annum and before the gold inflow had turned into an outflow. After this easing measure, three successive rate increases had to be enacted before the rate of member bank credit expansion declined in the late summer of 1928 to less than 4½ per cent.[2] The prolonged bull market forced the conviction either that, without specially favoring underlying business conditions, speculation for the rise was safe, or that the previous adjustment of stock prices to a changed commodity price level or to a permanently altered capitalization rate had been incomplete. The securities market was now in a mood to fight for its credit by paying higher rates.

What, now, are the lessons of the 1927-28 episode? Do they indicate that the reserve banks henceforth cannot take chances with easing measures during a period of extra-normal growth in the rate of credit expansion? Or, do they argue that the time has now come when the reserve banks must be equipped with special powers to combat the wiles of the street?

The various suggestions that have been advanced for the purpose of enabling the reserve banks better to cope with street demands—including that which would authorize reserve banks to impose a penalty rate of discount against banks which have funds outstanding on call—all contain, I believe, grave objections of a special or technical character. But, waving discussion of this emphasis, an insuperable

[2] The writer of this paper hopes that continued reference to "4½ per cent" will not be interpreted to indicate too slavish devotion to this particular figure. In its computation certain statistical approximations had to be employed of a controversial character; and, furthermore, we have had many recent examples of abrupt changes in trends. Had sufficient time been available more would have been said about the qualifications by which the acceptance of the 4½ per cent rule would have to be surrounded. But most of the conclusions here argued do not depend upon the strict accuracy of 4½ per cent. Unless the reserve banks have in mind, merely as a point of departure, some approximately accurate figure, indicative of the desirable annual rate of member bank credit expansion, they must depend, to an unduly large extent, upon cross-section, and even mere hunch, analyses. When they formulate judgments in this way, they tend to express the prevailing sentiment in financial circles. Central banks, thus administered, are in no position to resist the development of those errors of pessimism and optimism which have been partly responsible for the past unevenness in the course of business.

difficulty seems to me to proceed from the fact that occasions may arise in which a growth in security loans may be desirable in facilitating the recovery of business from depression. In a period of declining business activity reductions in money rates and general credit abundance may not be capable of stimulating commercial borrowing to any considerable extent. In such a situation it may only be in the security markets that the reserve banks are in a position to initiate any considerable increase in the utilization of credit by the business world.

If this be true, it may next be remarked that it would not be desirable to make a discriminatory rate against banks which have funds employed in the street mandatory, if that be the special power conferred upon the reserve banks. At best it could only be made a permissible power. But if its use were made optional, it is my opinion that the reserve banks would not be very keen to employ it. They would meet not only opposition from the street, but also from member banks which might be affected. I cannot see how the application of a discriminatory rate of discount could honestly avoid criticism, if it could be made to appear that street loans in particular, or security loans in general, developed out of a previous, excessive use of reserve credit.

I am thus driven to the conclusion that experience has not yet demonstrated that the reserve banks can properly regard brokers' loans as a special problem. The reserve banks must continue to operate upon the assumption that their powers are primarily of quantitative importance, and that they cannot be held responsible for the particular ways in which the credit that emanates from them is employed. This is not, of course, to say that rediscounting devices may not properly be utilized to encourage individual banks to improve their solvency position. But the discretionary granting of a rediscount in a special instance for the purpose of improving solvency is a far different thing from discriminating against a particular class of banks whose condition may be completely satisfactory. To those who insist that 1927-28 rebuts this conclusion, it must again be remarked that the present situation was preceded by a growth in the aggregate volume of credit at a rate exceeding that which experience seems to have indicated as desirable.

All this is not to argue that judgment and discretion have no place in the administration of the reserve banks. The application of restrictive measures in the case of individual banks of declining solvency, the exact timing of remedial measures, the determination of exceptions from general policies, all call for the ripest and most experienced judgment. But failure to have clearly in mind some well-defined general goal can only lead to the continuous misapplication of powers. They must result in the repetition of the 1924 and the late 1927 epi-

sodes in which I think it will be generally agreed that the reserve banks overused their powers, and of the early 1927 situation, in which I hold, that easing measures were too long delayed. Measurement and calculation have now progressed sufficiently to supersede guesswork and discretion, at least to the extent of supplying a point of departure for the various bodies which constitute the federal reserve administration.

A concluding word must now be spoken with reference to gold flows. It may be that those are correct who now predict that the world's gold stock will not grow rapidly enough to permit credit to expand apace with the secular growth in the physical volume of trade. If these pessimistic predictions are to be fulfilled, if the present tendencies of slackening gold production in the mining districts of the world are not to be offset by further economies in the use of gold, the reserve banks may be obliged to suspend their efforts to find an ideal solution to the problem of the desirable volume of credit, and will be forced to give primary emphasis to the sufficiency of their reserves. I personally am not quite so pessimistic as some about the future sufficiency of the world's stock of monetary gold to permit a reasonable rate of credit expansion in the gold standard nations. But, whatever may be our far-distant gold position, the reserve banks in the meanwhile are in need of a guiding principle of general application. It is argued here, that statistical measurement has now supplied this principle, subject though it may be to modification as futher experience is gained and as in particular it becomes possible to determine with greater precision the sufficiency of the gold supports of the currencies of various countries.

It should finally be remarked that nothing here argued is to be interpreted as a violently adverse criticism of the qualities of management of the federal reserve administration. It is merely a statement of one way of interpreting the lessons of recent financial experience. Until this experience had been gained, the reserve banks could not properly be taken to task for failing to heed it.

THE CENTRAL PLANNING AND CO-ORDINATION OF PRODUCTION IN SOVIET RUSSIA[1]

By Raymond T. Bye

University of Pennsylvania

Among the many interesting suggestions which socialists offer for the reforming of society, none is more alluring than the proposal to unify the economic forces of a nation into a co-ordinate whole, which would permit the productive process to be conducted according to a general plan, carefully worked out in advance, and directed by the central authorities of the socialistic state. In the system of capitalism, such general planning and co-ordination are, for the most part, lacking. To be sure, here and there in our industrial system, there are evidences of some measure of centralized direction. There is a movement towards integration which brings into a single organization businesses which were formerly under scattered, independent management. The financial penetration of industry by bankers is giving to great financiers considerable powers of control over a number of different branches of industry. And governments, through the regulation of business, the levying of tariffs, the granting of subsidies, and other measures, may be said to exercise some guidance of the entire economic process. Nevertheless it remains broadly true that there is, under capitalism, no conscious, general planning of industry as a whole. We live in a world still largely dominated by the principle of free enterprise, which allows each entrepreneur to direct his own affairs, so long as he does not transgress certain rules of honesty and fair dealing.

Such co-ordination as there is in this individualistic complex of productive activities is brought about mostly by the movements of prices. We rely largely upon the forces of demand and supply to maintain the balance of industry, and to direct production into the channels where it should go. But it must be admitted that these forces do not always operate with efficiency. Much duplication of effort results from competition; excess of plant capacity is an almost chronic condition; and, periodically, the industrial process gets so badly out of

[1] I desire to express my grateful appreciation to Mr. Louis Domeratzky, of the United States Department of Commerce, Division of Regional Information, and Mr. M. Mendelson, of the Amtorg Trading Corporation, New York City, for their assistance in placing at my disposal much of the material on which this paper is based. I am also greatly indebted to Mr. Maurice Dobb's book, *Russian Economic Developments Since the Revolution* (Dutton's, 1928), which is decidedly the most illuminating account of the economic aspects of the Soviet régime which has appeared in English.

adjustment that we are plunged into the throes of business depressions, with all their attendant suffering and disaster. Socialists believe that these difficulties are inherent in a system of individualism, and they see in the gradual tendency of capitalism toward integration and governmental intervention a confirmation of their view. But a mere sporadic growth of centralization at isolated spots within the economic structure does not appear to them to offer a solution. Only in a socialistic society do they believe that the evils of unco-ordinated effort and unbalanced production could be done away with. Under socialism, with most of industry in the hands of the state, intelligent planning of the whole national economy by a competent body of experts would be possible. On the basis of the exact and complete statistical information which an authoritative governmental service could procure from the state enterprises, the needs of consumers for each class of commodities could be determined in advance, the allocation of capital and labor in each branch of production could be arranged accordingly, and the entire resources of the nation could be co-ordinated on the basis of a comprehensive plan which would do away with misdirected production and business depressions.

This is a stupendous conception, which presents a real challenge to capitalism. If socialists can demonstrate the feasibility of a centrally planned and co-ordinated industrial system, we may well question whether capitalism must not find a way to incorporate this feature into its economy, if it is not to give way to socialism. For this reason economists should watch with the greatest interest the efforts now being made by the communist government of Soviet Russia to convert this dream of a planned economy into a reality. It is a colossal and daring experiment. Here is a nation of 150 million persons, with an area more than twice as great as that of the United States. Practically all of its banking, mining, transportation, foreign trade, and large-scale manufacturing are in the hands of the state.[2] While the present régime in Russia is styled "state capitalism" by the communists, and is regarded as only a transition form in the evolution toward socialism and, eventually, to communism, it nevertheless is sufficiently socialistic to permit the principle of comprehensive planning to be carried out. The government leaders are making a determined effort to put this principle into effect. They have, therefore, created

[2] According to official statistics, over 90 per cent of the "census industries" are in the hands of the state. (*Economic Statistics of the Soviet Union*, published by Amtorg Trading Corporation, New York, June 1928, p. 20.) "Census industries" include establishments using mechanical power which employ fifteen workers or more, and those not using mechanical power which employ thirty workers or more. The smaller manufacturing plants and handicraft shops, many wholesale and retail stores, a few foreign concessions, and nearly the whole of agriculture remain in private hands.

a State Planning Commission, which is charged with the task of accomplishing this end. It is the object of the present paper to describe this commission and its activities.

The State Planning Commission, or Gosplan (as it is usually called), is an outgrowth of an official commission appointed early in the communists' régime to work out a program of electrification for the nationalized industries. As its work progressed, it was realized that the electrification project should be part of a general, comprehensive plan for the industrial development of the country. Therefore, on February 22, 1921, it was expanded into a State Planning Commission for the Russian Republic (Russian Socialist Federated Soviet Republic), which is the largest state of the Soviet Union. Finally, by a decree of the Council of People's Commissars on August 21, 1923, its status as the State Planning Commission for the whole of the Union was definitely established, and its functions defined. Lenin himself was keenly interested in it, and took part personally in its early work.

The duties assigned to the Commission in the 1923 decree were: (1) to draw up a general economic plan for the development of the Union; (2) to examine the all-Union budget and report upon it; (3) to study the problems associated with the country's monetary and banking system; (4) to divide the entire Soviet Union into appropriate economic regions; (5) to examine all the production plans of the various Soviet organs and co-ordinate them with the all-Union plans; (6) to unite and co-ordinate all the work of the various departments looking toward standardization and industrial research; (7) to regulate the activities of the State Planning Commissions set up in the Constituent Republics; (8) to study the possibilities of introducing the economies of large-scale production into Soviet industry; and (9) to give advice to the Council of People's Commissars and the Council of Labor and Defence on important economic measures submitted to them for action by subordinate departments. It will be observed that the Commission is confronted with no small task!

It has developed a very large organization to cope with it. Not only is there the All-Union Gosplan, with headquarters at Moscow, but in each of the six Constituent Republics which constitute the Soviet Union there is also a State Planning Commission, and in the various Regions and Provinces there are subordinate planning organizations. In 1926, the Planning Commissions in the Russian Republic alone employed 950 persons, and included in their organization twelve District Planning Commissions, three Commissions in the Autonomous Republics, forty-two Provincial, forty-three Regional, and many local planning bodies. All of the planning organizations work in co-operation with the All-Union Gosplan, and are under its general direction. The

Presidium, or governing board, of the All-Union Gosplan consists of sixteen persons, appointed by the Council of People's Commissars (which corresponds roughly to the cabinet of parliamentary governments). Under the supervision of this board there is a large staff of economists and technical experts, with the necessary corps of clerks and other assistants. More than five hundred persons are now employed in the central Gosplan offices at Moscow.

Although the State Planning Commission occupies a very important place in the Soviet economy, it has no power to carry its plans into execution. It is merely an advisory body, attached to the Council of Labor and Defence (which, next to the Council of People's Commissars, is the highest authority in economic matters). The Council of Labor and Defense is thus charged with the responsibility of directing the economic plans for the whole of the Union, and clothed with the necessary power to accomplish this. However, its function is to decide on matters of policy and to give general orders, rather than to execute its decrees. The actual work of directing production is under the supervision of various departments of the central government and the Constituent Republics in charge of the different branches of industry. Among these may be mentioned the Commissariats for Domestic and Foreign Trade, Finance, Transportation, Posts and Telegraphs, and Agriculture, and the Supreme Economic Council. These are the bodies whose duty it is actually to put the proposals of the State Planning Commission into effect. The Supreme Economic Council is especially important in this connection, for it is in control of the major nationalized manufacturing and mining industries. Indeed, it is itself a planning and co-ordinating body within its own field. It has a number of planning boards to schedule production in the industries subject to its jurisdiction, to make proposals for the allocation of capital, and to look after other matters of economic policy. But its proposals must go to the Gosplan for approval, in order that they may be co-ordinated with the larger plans of All-Union economy.

It must not be supposed that the existence of central planning in Russia means that the administration of the Soviet industrial system is extremely centralized. In the early days of the revolution it was so, but the result was such a congestion of business in the central offices, so much bureaucracy and red tape, and such a hampering of initiative on the part of those in closest touch with production, that the arrangement was soon recognized as most unsatisfactory. Accordingly, a "New Economic Policy" was adopted in 1921, which, among other things, considerably decentralized the industrial machinery. Manufacturing and mining are now mostly in the hands of large Trusts, which have a considerable degree of freedom, although their governing

boards are appointed by the Supreme Economic Council, and they are subject to a certain amount of regulation by that body. The Trusts are organized into Syndicates, which act as selling and (in some cases) purchasing agents, somewhat after the manner of German Kartels. Wholesale and retail distribution, while to some extent in private hands, are mainly carried on by state distributing establishments, and by co-operative societies, which also enjoy a great deal of autonomy. Agriculture is almost wholly conducted by small peasant farmers. The arrangement is one which is expected to permit the carrying on of industry according to a unified plan, while leaving the detailed working out of that plan, and the meeting of special problems, to the discretion and initiative of individual managers and officials. Although the Gosplan is only an advisory body, and in spite of the decentralization of the industrial organization, it is generally conceded that the All-Union plans have a profound influence upon economic policy throughout the nation. The authorities do not always follow the advice of the state planning experts, as we shall see, but in general the Gosplan program is the chart by which they endeavor to steer their course. Observers report that its schedules and plans are everywhere in evidence, and are frequently to be found posted on the walls of factories and offices.

In order that the Gosplan may be provided with all the data which it needs for its task, it is accorded the right of communicating directly with all government institutions in the Soviet Union, and these institutions must supply it with such information as it requires. The State Planning Commission, however, is not the chief organ for gathering statistics in the Russian scheme of organization. That work is carried on mainly by the Central Statistical Administration, upon which the Gosplan relies for much of its information. It is beginning to be realized that a confusion and duplication results from this separation of the functions of statistical research and planning, and there is some agitation for the amalgamation of the Central Statistical Administration with the Gosplan.

There has been much speculation concerning the reliability of Russian statistics. Many question the accuracy of the figures which are available, and some even doubt the sincerity of the officials who publish them. On the latter point, I do not believe there are any grounds for apprehension. None are more keenly aware of the need for accurate information than the Soviet officials. The figures which appear in published documents are those which the government itself relies upon as a basis for forming its policies. There is, then, no reason to believe that they are deliberately deceptive. It is generally admitted, however, that the statistics for periods prior to 1924 are very unreliable.

Competent persons testify that since that time they have been steadily improving.[3] Certainly there is a wealth of statistical data about Soviet Russia which may well be the envy of statisticians in other countries, and I believe that, on the whole, they are about as trustworthy as the figures of most nations.

To handle the various phases of its work, the State Planning Commission is divided into a Reconstruction Division, a Production Division, and an Economic Division, each of which is further divided into Sections. The Reconstruction Division, which includes Sections devoted to Electrification, Fuel, Waterways, Building Construction, and Regional Partition, has for one of its most important tasks the working out of a comprehensive plan of central power stations and inland waterways, which, as I shall show, is a cardinal feature of the Soviet economic policy. The Regional Partition Section of this division is engaged in dividing the Union into Economic Regions, in accordance with a provision of the decree by which the All-Union Gosplan was created. The Production Division is composed of Sections devoted to Industry, Transportation, and Agriculture, with some Bureaus of lesser importance. This Division is said to have been "of great service in the organization of Trusts, the allocation of credits to special industries, the regularization of supplies of raw materials, the concentration and combination of enterprises, the reduction of overhead charges, the strict control of accounts, and the calculation of costs of production."[4] Its Agricultural Section is grappling with the problem of working out means to improve the backward farming industry of Russia, a task rendered difficult by the ignorance and conservatism of an illiterate peasantry. It has had to attempt solutions for such problems as grain famines, the development of grain exports, increasing the purchasing power of the peasants, the colonization of sparsely settled regions, the provision of farm machinery, and the development of agricultural credits.[5] In the Economic Division there are sections devoted to Trade, Public Finance, Domestic Conjuncture, and World Economy. This division has had to deal, among other things, with the problem of maintaining a satisfactory relation between urban and rural production, and with shaping the credit and financial policy of the government.

In framing its general economic program of All-Union development, the State Planning Commission has been guided by two main consider-

[3] See the discussion of this point in Chase, Dunn and Tugwell, *Soviet Russia in the Second Decade*, p. 37, where Mr. Stuart Chase, a certified public accountant, describes the methods by which the statistics are compiled.

[4] Editorial article—"The State Planning Commission—a Unique Attempt to Organize Industry," in *Russian Information and Review* (London), May 3, 1923, p. 279.

[5] *Ibid.*

ations of policy. It has aimed, first of all, to increase the productivity of Russian industry. The communists inherited from the old régime an industrial system not only backward in its development, but somewhat broken down by the ravages of the World War. The situation was made worse by the unpreparedness of the communists to carry the terrific burden which they assumed when they succeeded to power, and by the mistakes which they made in their first economic experiments. To correct these mistakes and build up the Union's industry to a point equal to its pre-war efficiency, was, therefore, an imperative need. But this alone would not be enough. The communists realize that, to demonstrate the success of their theories, they must not only bring the national income back to its pre-war level, but they must push it to a point where it will compare favorably with, or prove superior to, the achievements of more advanced capitalistic countries. Hence, they are bending every energy to introduce modern methods into manufactures, agriculture, and other branches of industry.

The second main objective of their production program is to make the Soviet Union as nearly self-sufficient as possible. This policy is dictated not only by practical considerations, but also by communist theory. To ensure the success of communism, they must free their country from dependence on capitalistic nations. This they cannot do so long as they must depend on foreign capitalists to supply them with industrial equipment. Moreover, a communist state is a proletarian workers' state; but the Russia of today is primarily an agricultural country, and its population consists mainly of a rural peasantry. Therefore, the government seeks to accomplish the urbanization and industrialization of the Union, until it becomes a great manufacturing nation. Then, with its extensive agricultural and mineral resources, and its own manufacturing and marketing organization, it will be, they hope, a great, self-contained, workers' commonwealth.

With productive efficiency and economic self-sufficiency as its major objectives, then, the State Planning Commission proceeds to formulate a specific program for their attainment. It has drawn up a comprehensive plan which charts the course which the industrial development of the Union should take for the next fifteen years. Into this scheme, which can be little more than a general outline, it attempts to fit more detailed plans for shorter periods. This calls for the drawing up of a sort of industrial budget, estimating the needs for the various kinds of products for the ensuing year or years, as well as the capacity of the corresponding branches of industry, and forecasting the output to be expected of each. The work is primarily statistical, involving the gathering and interpretation of a great deal of data, and requiring an enormous amount of labor. The results are set forth in bulky

volumes, giving, in considerable detail, for each industry, the output to be expected of it in each successive year, with the increase or decrease from the preceding year, its capital requirements, the number of workers to be employed, and so on, together with sections dealing with public finance, the currency and credit situation, the movement of foreign trade, and other phases of the economic process. The first five-year program of this sort was published in 1927, and covers the fiscal years from October 1, 1926, to September 30, 1931.[6] It is admitted, however, that it is based upon statistics for earlier years which were faulty, and that it is, therefore, not to be relied upon. Hence the Gosplan is already at work upon new five-year plans, which, it is hoped, will be more satisfactory. The annual plans are more detailed than the five-yearly ones, and are considerably more reliable. The statistics included in the yearly and five-yearly programs are commonly referred to as "control figures." This phrase is significant in emphasizing the difference between Gosplan reports and ordinary statistical estimates. While the Gosplan tables are in a sense an estimate, or forecast, of production, prices, employment, and other matters, they are more than that, for they are a guide to the administrative authorities in shaping their economic policy. For instance, the control figures of the Supreme Economic Council, which are worked out in co-operation with the Gosplan, have the effect of a general order, which the Trusts and Syndicates are expected to carry out, so far as possible. Other departments of the government, having charge of railways, banking, agriculture, and other industries, use the control figures in a similar way.

The Gosplan does not confine its activities to the preparation of its production schedules. Along with its other work it publishes a monthly periodical,[7] in which appear numerous articles by members of the Commission's staff and others on important economic questions confronting the Union. This is somewhat similar to the economic journals with which we are familiar. The Gosplan is also frequently asked to prepare special reports on any particular problems of economic policy that may confront the government, and its help is sought when serious industrial maladjustments occur. In fact, the government does not reach decisions on any question of economic significance without first consulting it.

An insight into the manner in which the Planning Commission is going at its problem can be gained by considering its fifteen-year program. The general features of this plan have been set forth in a recent article by Professor Ossadtchky, Adjunct to the President of

[6] *Prospective Development of National Economy, 1926/7 to 1930/31* (Moscow, 1927).

[7] *Planovoe Kosiaistvo* (*Planned Economy*).

the Gosplan.[8] According to this account, the problem of communications is regarded as the most essential need of the Union, for on it depends the provision of markets for the nation's production of coal, wheat, oil, minerals, and other staples, and only by this means can the vast, unexploited resources in the interior of Russia be opened up and utilized. Therefore, the first part of the fifteen-year program calls for the development of a comprehensive system of rail and water transportation. Along with this goes an extensive program for the construction of central electric stations to furnish power for the nation's railroads and industries. In pursuance of this plan, there has already been begun a central hydro-electric system on the Dnieper River which is intended to be a nucleus of power and communications for the Southwest. The needs of the Southeast are to be cared for by the construction of a canal connecting the river Volga with the Don, thus giving this whole region access to the Black Sea. Finally, Western Siberia is to be linked with Central Asia by a railroad nearly nine hundred miles long, connecting the Trans-Siberian Railway with that of Turkestan. It is anticipated that the Soviet Union will be so united economically by these improvements that a great deal of productive energy now dormant can be released for further development. Then the industrialization and urbanization of the country, already going on, can be pushed forward at a faster pace. The rapid development of cities is to be promoted, while maintaining a reasonable equilibrium between manufacturing and farming. At the same time it is proposed that some of the industries shall be moved closer to their sources of raw materials.

The stressing of these features does not mean that the needs of agriculture are to be forgotten. The fifteen-year program provides that an allowance be made for the probable growth of population (an increase from the present figure of 150 millions to 190 millions in fifteen years is predicted by Ossadtchky), and the needs of these increasing numbers for various materials, especially foodstuffs, must be calculated and arranged for. If these growing needs are to be met, while at the same time the proportion of the population engaged in the cultivation of the soil is reduced, the efficiency of agriculture must be greatly improved. To accomplish this the program calls for the giving of more land to the most needy farmers, the migration of some of the peasants from overpopulated districts to those more sparsely settled, and the improvement of agricultural methods, especially through the increased use of machinery. The latest five-year plan for agri-

[8] P. Ossadtchky, "Les lignes générales du plan de reconstruction de l'économie nationale des Soviets," in *La Vie Economique des Soviets* (Paris, May, 1927), pp. 2-6.

cultural development in the Russian Republic[9] calls for the organization of 123 new large grain farms under state operation and 1,250 other large agricultural units, involving the cultivation of over nine million acres. It also provides for the establishment of large stock farms, and of new co-operative units involving about one million small farms. Along with this it is proposed to make progressively larger annual appropriations for the purchase of farm equipment, especially tractors. This is an example of the more concrete proposals for the improvement of agriculture.

Finally, there is the necessity of providing for capital growth sufficient to meet the needs of industrial expansion, and of directing the investment of that capital into the proper channels. Here we are faced with one of the most significant problems which the communist officials have had to meet. It shows clearly one of the essential differences between a socialistic and a capitalistic economy. In the earlier stages of capitalism, when individualism reigned and governments pursued a policy of laissez faire, capital was accumulated through private savings, under the stimulus of prospective interest or profits; and the channels of investment were determined by the rate of interest, operating to encourage the expansion of those industries whose production was insufficient to satisfy the demand, and to discourage those industries where overcapacity caused production in excess of demand. Today we appear to be moving into a system where this mechanism is somewhat modified. Much of our capital is provided out of corporate savings, through reinvestment of surplus earnings, or by the state, which uses its taxing and borrowing power to build roads, public buildings, merchant ships, and other forms of capital needed in the carrying on of the many industrial activities in which modern governments engage. Nor do we rely entirely on the rate of yield of different industries to direct the channels in which capital shall be invested. Groups of industries, more or less closely related, are now integrated under unified management, and surplus gains from one of an association of enterprises may be made to carry another which is incurring losses. It is an extension of the principle of joint costs over a larger field of industry. Again, governments may encourage non-profitable branches of production by tariffs or subsidies, and they may operate whole industries, such as the post office, at a loss, making up the deficit out of taxes. Socialism carries these principles to their logical extreme. It definitely abandons private accumulation as a source of capital

[9] Summarized from *Economic Life* (Moscow, July 7, 1928), in U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, *Russian Economic Notes*, August 20, 1928.

formation, and depends upon a central planning authority to direct the investment of its capital. In the working out of this problem in Russia the Gosplan plays an important part.

The Soviet state appropriated its capital, in a somewhat deteriorated condition, from the capitalists who formerly owned it. In the early days of the revolution, it was allowed to depreciate still further. The communists have had to make up for this depreciation, and furnish new savings to provide the industrial equipment necessary for their ambitious production program. They are accomplishing this partly through the disposition of the earnings of the Trusts and Syndicates. The capital of these enterprises is regarded as belonging to the state. They are expected to divide their profits as follows: 20 per cent must be reinvested in the enterprise until the surplus so accumulated equals 50 per cent of the original capital; about 10 per cent is used to provide bonuses and welfare work for employees; the remainder is at the disposal of the Supreme Economic Council, representing the state. In co-operation with the Gosplan, the Council uses this share to further the policy of economic self-sufficiency, by granting credits to those industries which it regards as most in need of encouragement. Thus the profits of the more firmly established light industries, such as textiles, rubber, and sugar, have been employed to subsidize the iron and steel industry, and the manufacture of agricultural machinery. But the state's share of profits does not, as yet, suffice to provide the capital needed for reconstruction, so that the government has had to secure it from other sources. It has done this by taxation, and by the floating of internal loans, offered, not to private investors, but as a medium for investment of the surplus funds of various state and economic organizations.[10] The state has been very liberal in appropriating funds for the upbuilding of industry. At the beginning of 1926 the Gosplan made an estimate of the capital allocations that would be necessary for the nationalized enterprises for the five-year period from 1925 to 1930. This called for the appropriation of five billion rubles (two and one-half billion dollars). Mr. Maurice Dobb calculates that, after allowing for the replacement of depreciated capital, this will amount to an increase in capital value of 60 per cent by 1930, and, if carried out, should suffice to bring the nation's production in that

[10] It is alleged that, in fact, most of the capital which the state has been able to raise has been secured through exploitation of the peasants, such profits as the state industries are able to show being merely the concealed fruit of such exploitation. The state buys grain from the peasants at prices arbitrarily fixed at less than the world price, it is said, and sells its manufactured goods at prices maintained above world prices. There is some truth in this contention. I will show, presently, that the disparity between urban and rural prices has been a cause of economic difficulty to the communists.

year to between 33 per cent and 50 per cent above the pre-war standard.[11] Since Mr. Dobb wrote, the capital appropriations have been greatly increased, so that it seems likely this program may be considerably bettered.

Two tests may be used to measure the degree of success attained by the Soviet system of planned and co-ordinated production. One is the behavior of the system in time of industrial crises. The other is the increase in the national income, especially as compared with the expected increase as shown in the Gosplan production schedules. It is too early yet to expect conclusive evidence on either of these tests, but some facts which bear upon them are available.

I shall discuss first the matter of crises. I have already stated that the socialists expect their system of planned economy to eliminate such disturbances. It would be too much to ask the Soviet state to achieve this all at once; but if it could be shown that it has succeeded in mitigating business depressions, that would be a point in favor of the system. There have been at least two crises, somewhat similar to the cyclical depressions of capitalist economies, during the period of the New Economic Policy in Russia.[12] The first of these was the so-called "sales crisis" of 1922. It resulted from an upsetting of the balance between manufactures and agriculture. The lack of circulating capital inherited from the war and post-war periods (which was partly due to the inflationary and confiscatory policies of the communists) had made the Russian towns peculiarly dependent on their ability to secure food and raw materials through the sale of current urban products in the country; but the crop famine which occurred in 1921 so raised the prices of farm products, relative to manufactured goods, that the market for the latter was destroyed, and the crisis ensued. The State Planning Commission made a report, in which it recommended that more liberal subsidies be granted to the Trusts by the state, and that state departments make more prompt payment to the Trusts for goods purchased from them. Now here we have evidence that a central planning agency is not a guarantee of correct policy, for it is doubtful if the measures advocated by the Gosplan would have been successful, had they been followed. Increased grants to the Trusts would have encouraged an increase in urban production, when what was needed was curtailment thereof pending the improvement of agriculture. As it happened, the Supreme Economic Council did not follow the advice of the Gosplan. Instead, it ordered a reduction in the output of the light finishing industries, reserving its financial resources for the maintenance of other production, especially fuel, which was more

[11] *Russian Economic Developments Since the Revolution* (Dutton's, 1928), pp. 378-9.

[12] My account of both these crises is based on the analysis of Dobb, *op. cit.*, pp. 212-215 and Chaps. 8 and 9.

important. This policy was apparently successful in easing the situation, and the difficulties were gradually adjusted without any prolonged depression.

By the fall of 1922, however, agriculture had so far recovered that the output of farm products was becoming excessive, causing a disparity of prices exactly the reverse of that which had previously prevailed. This ushered in the "scissors crisis" of 1923. This crisis is so named because a graph of the prices of agricultural and manufactured goods shows two lines which cross at an angle, much like the intersection of a pair of shears. The rising line pictures the increasing prices of factory products, while the falling line shows the decreasing value of farm produce. This lack of balance between the two sets of prices went so far that, in October, 1923, the ratio of the former to the latter was three times what it had been before the war. The purchasing power of the rural districts was so reduced by this disparity that they could not buy the output of the city factories, and a general glut of manufactured goods resulted, with many of the characteristic features of industrial depression.

Two different explanations of the phenomena were advanced, and two corresponding remedies were proposed. The Gosplan itself was divided on the issue. One group, including Trotzky and a considerable section of the Gosplan, attributed the difficulty to a lack of control and planning on the part of the central authorities, and especially to the underdevelopment and lack of capital of the urban industries, which was thought to have made the costs of manufactured goods excessive, and so forced up their prices. This group argued that the remedy was to strengthen the planning machinery by giving more authority to the Gosplan or some other suitable agency, to strengthen the urban industries by giving them easier credit, and to reduce the costs of production by the concentration of manufacturing industries into large-scale enterprises. The other group laid the blame on the abuse of their monopoly power by the state industries, which were said to have restricted their own market by maintaining excessive prices, and so to have brought disaster on themselves. The solution proposed by this faction was to curb the power of the Trusts and force them to lower their prices. The issue was an important one, for had the views of the first group prevailed, urban industry would have been strengthened at the expense of the peasantry, and the concentration of control would have brought back an autocratic régime similar to that in the period of War Communism, which had been abandoned in 1921 to give way to the New Economic Policy. The state authorities followed the program of the second group, however, and brought pressure on the Trusts to lower their prices, (1) by the restriction of credits to manufacturing indus-

tries, (2) by the fixing of maximum prices through a newly created Committee for Internal Trade, and (3) by importing lower-priced goods from abroad and selling them in competition with the Trusts. At the same time industry was strengthened by a process of integration, and further inflation of the currency (which had accompanied the price changes already described) was checked by a policy of monetary stabilization. This policy was successful in partly "closing the scissors." By October of 1924, the prices of urban industries had fallen 29 per cent from the point where they had stood one year before, and production had grown considerably. The lowering of prices came partly from economies effected in the costs of production (notwithstanding a rise in wages), and partly from a reduction in the profits of the Trusts and Syndicates. Continued developments along these lines went on until the acute phase of the crisis disappeared.

Mr. Maurice Dobb, whose study of recent economic developments in Russia is a very sane and careful piece of work,[13] is of the opinion that these events demonstrate the success of the Soviet system of planned economy in reducing the evils of business depression. He points out that both the crises which I have described, as well as a third which he examines, were of short duration, lasting only a few weeks, and that in no case did they lead to any such general depression or stoppage of work as might have been expected in capitalistic countries under similar circumstances.[14] He attributes the rapid passing of the crises to the policy, which the Soviet officials followed, of reducing prices while continuing to expand production along lines indicated by the market, a policy much more difficult to put into effect in a capitalistic economy.[15] But Mr. Dobb's judgment is only that of a single individual, from which other interpreters of the same phenomena might dissent. Especially, since there was a division of opinion among the Soviet officials as to the cause of their difficulties, and the remedies appropriate to the occasion, one may wonder what the results might have been, had the views of the opposite faction prevailed, and a mistaken policy been followed. Unified action by government authorities is not a guarantee of infallible decisions, and a mistake by the planning body or bodies when applied on so large a scale might be more disas-

[13] *Op. cit.*

[14] *Ibid.*, p. 381. Mr. Dobb does not mention one significant point, viz., that the communists must keep the industrial proletariat relatively contented if they are to hold their power. This compels them to find means of employing the urban workers by some means or other. Thus political necessity, rather than economic foresight, may be the true explanation of the measures taken to reduce unemployment.

[15] Individual enterprises with exceptionally strong resources and enlightened management do succeed in doing this under capitalism, but no way has yet been worked out for achieving it in our industry as a whole, because it cannot be directed as an integrated unit, each separate enterprise having to weather the storm by itself, as best it may.

trous than the maladjustments of an individualistic system. Moreover, a satisfactory balance between agriculture and manufactures cannot yet be said to have been reached. It seems wise, therefore, to wait for further experience in Russia's experiment before coming to a conclusion concerning its ability to solve the problem of business depressions.

I shall turn, then, to the question of productive efficiency. There seems to be no reason to doubt that the communists have succeeded in greatly increasing the output of Russian industry. In the early days of their régime, as I have already stated, the devastation and demoralization of the World War, coupled with the events of the revolution and the mistaken policies which prevailed during the period of War Communism, had reduced the economic machine to a state of almost total collapse. It is said that by 1921 production in manufactures and mining had fallen to 15 per cent of the pre-war level, and agriculture had been reduced by one-half.[16] After the adoption of the New Economic Policy, however, things began to improve, and by the fiscal year 1926-27 the pre-war level of production in most lines had been equalled or passed.[17] Complete statistics for the fiscal year 1927-28 are not yet available, but such data as are at hand indicate that there has been substantial further progress in all important industries except the cereal crops. The products of the state manufacturing and mining industries increased 23 per cent over the preceding year. As a result, production in this field is now from 35 to 40 per cent above the pre-war output,[18] and real wages are 27 per cent higher than they were before the war.[19] The Supreme Economic Council expects to maintain an almost equally rapid growth during 1928-29, its program calling for an increase in the production of the large state industries of 19 per cent, a rise in wages of 6 per cent, and a decline of 6 per cent in production costs.[20] Such progress as these figures indicate is sur-

[16] Amtorg Trading Corporation, *Soviet-American Trade Outlook* (1928), p. 6. I cannot vouch for the accuracy of these figures, but there is no doubt that production had been cut to a very low figure.

[17] *Economic Statistics of the Soviet Union,* previously cited, shows substantial increases over the pre-war level in the production of coal, oil, cotton cloth, rubber shoes, paper, matches, phosphates, peat, kerosene, cigarettes, agricultural machinery, dilseeds, cattle, sheep and goats, and railway tonnage, with figures still below the pre-war level for grain (a very important crop), iron and steel, woolen cloth, acids, sugar, flax, cotton, horses and swine. Total production in manufacturing and mining exceeded the pre-war output, however, and agricultural production as a whole (measured in pre-war rubles) was 99 per cent of the pre-war production.

[18] *Industrial Summary for 1927-28,* summarized from Russian sources, in *Russian Economic Notes* of the U. S. Department of Commerce, Nov. 7, 1928.

[19] "L'exercice économique 1927-28," in *La Vie Economique des Soviets* (November, 1928), pp. 1-3.

[20] *Economic Review of the Soviet Union* (September 1, 1928), p. 288.

prisingly good, and indicates a rate of growth considerably exceeding that of pre-war Russia. Although the advancement of agriculture is not so rapid, still, progress is being made there also. On the whole, therefore, the situation as regards production must be regarded as fairly satisfactory. But it is impossible to say how much of this success is to be attributed to the principle of planned economy. Too many other factors are involved in it. A better test of the effectiveness of the planning program will be to compare the results accomplished with the previously prepared production schedules. This will show to what extent the estimates of the Gosplan are actually realized in performance.

It could hardly be expected that the work of the State Planning Commission would be successful in its very beginning. There are a number of obstacles to the carrying out of a planned production program which necessarily make progress slow. The sudden nationalization of industry at the time of the revolution, the drastic period of War Communism which followed it, and the transition to the New Economic Policy, these were changes too kaleidoscopic to permit of carrying out a program of systematic planning. As a result of these things, the government is still in a state of experimentation and groping, and there is some confusion of jurisdictions and duplication of functions, as well as much bureaucratic red tape, in the politico-economic organization. The task of planning industry in advance is rendered still more difficult by the fact that Russian industry depends largely on the ability of the government to obtain foreign machinery and other equipment, which in turn depends on the possibility of maintaining an export balance, and on the credit situation. Until recently, most of Russia's exports consisted of agricultural products, of which grain was the most important item. But prediction in the field of agriculture is especially hazardous, and even if the expected output of grain and other produce were known, it could not always be stated how much of it the government would be able to get. It is not to be wondered at, therefore, that the first five-year industrial program of the State Planning Commission, covering the years 1926-27 to 1930-31, has already proved so at variance with actual accomplishments that it has been discarded. Whether the new five-year control figures, which the Gosplan is now preparing, will be any better, is a question which the future must answer.

It is admitted that in the beginning of the Gosplan's work even its annual plans proved impossible to carry out. In general, the plans

were too optimistic, and performance fell short of expectations; but in some branches production exceeded the estimates. The best results were achieved in mining, where production for the period from March, 1921, to January, 1924, averaged 96 per cent of that called for by the Industrial Section of the Gosplan. During the same period, the performance in manufactures varied from 68 to 190 per cent of the planned production.[21] In agriculture the results were still less satisfactory. As late as the year 1925-26, production admittedly failed to correspond with the control figures. At the first annual conference of Planning Commissions held at Moscow in March, 1926, Mr. V. G. Groman, a leading economist on the staff of the Gosplan, offered an explanation of the failure of the plans which illustrates nicely the errors in planning which are introduced by the uncertainties of agriculture.[22] The control figures for that year had been based on crop estimates prepared by the Central Statistical Administration as late as August of 1925. Unusual fall rains spoiled the crops, which, as a result, proved to be 5 per cent less than the estimates. Although this decrease was small, it so drastically cut down the grain surplus that exports of grain had to be reduced two-thirds, leading to an unfavorable trade balance, when a favorable one had been expected. This in turn necessitated a reduction in the capital investments in industry, and thereby led to a decline in the output of manufactures. Thus a slight upset in the agricultural situation disturbed the whole program.

In the year 1926-27, production came much nearer to the expectations of the Gosplan. The output of manufacturing and mining in most lines agreed very closely with the previously prepared production schedules, while agricultural crops considerably exceeded the estimates. The program for the upbuilding of industrial equipment was not lived up to, however; and the average unit cost of production decreased only 1.8 per cent, where a decline of 5 per cent had been called for.[23] In the table below I give comparative figures, showing the percentage of increase or decrease over the preceding year which had been scheduled by the control figures for 1926-27 in most of the manufacturing and mining industries, and in agriculture, together with the percentage of change which actually was realized:[24]

[21] These figures are taken from an article by I. A. Kalinnikov in *Economic Life* (Moscow, January 13, 1924).

[22] His address is reproduced in the Proceedings of the Conference.

[23] U. S. Dept. of Commerce, *Commerce Yearbook* (1928), II, 549.

[24] Reproduced from the Gosplan *Control Figures of National Economy for 1927-28*. The data for agriculture cover the crop year 1926. The percentages in manufacturing and mining labelled "actual" are based on production statistics for only the first ten months of the fiscal year, with estimates for the remaining two months, complete returns not being available at the time they were computed.

Industry	*Percentage of change in production from the preceding year*	
	As scheduled in the control figures	*As shown by the actual output*
Manufacturing and Mining		
Producers' goods		
Coal	+31.0	+30.0
Oil	+17.0	+21.9
Metals industries	+23.0	+23.5
Electric industry	+25.9	+28.4
Cement	+48.4	+23.0
Glass	+29.2	+16.0
Chemicals	+51.1	+23.0
Consumers' goods		
Cotton textiles	+16.3	+17.0
Linen	+28.1	+20.5
Shoes and leather	+17.6	+21.5
Paper	+14.0	+11.0
Porcelain and china	+24.0	+21.6
Rubber goods	+17.4	+17.4
Matches	+ 4.5	+32.0
Vegetable oils	+ 5.4	−27.3
Liquors	+54.6	+62.0
Tobacco	+20.2	+10.8
Salt	+16.3	+16.5
Total manufacturing and mining	+20.1	+18.2
Agriculture		
Cereals	+ 6.1	+ 9.1
Raw materials	−19.1	− 6.0
Other crops	+ 5.1	+10.8
Animal products	+ 5.0	+ 4.9
Total agriculture	+ 3.8	+ 7.2

The average difference between the expected changes and the realized changes shown by these figures in manufacturing and mining was 10.0 per cent, and in agriculture 5.1 per cent. This indicates the amount of error in the predicted *rates of increase* or *decrease* of production. A comparison of the predicted total amounts of production with the realized amounts in each industry would show a much smaller percentage of error. On the whole, considering all the difficulties, it is not a bad showing.

Complete figures for the fiscal year which ended September 30, 1928, are not yet available. Such data as are at hand, however, indicate that, in manufacturing and mining, results were again substantially in accord with the control figures. Total production in the large-scale state industries increased 23.3 per cent, which is almost exactly what was predicted. Furthermore, indications at the end of the first eight months were to the effect that the program of building construction would be carried out in full, and that the expected decrease of 6.3 per cent in costs of production would be realized. The productivity of labor, however, had not been raised as much as was called for, and wages had been increased 11.0 per cent, where only 7.5 per cent had

been scheduled.[25] In the fields of public finance and agriculture, also, the Gosplan figures proved erroneous. Its prediction as to government revenues proved to be far too low, and its estimate of agricultural crops too high. The output of farm products showed a slight decline (where a slight increase had been expected), necessitating the almost complete cessation of grain exports, and again occasioning a large unfavorable trade balance.[26] As some falling off in the grain harvest had been anticipated, however, this situation does not appear to have embarrassed the program of the Gosplan as much as it did in 1925-26. Considering the information now available, the results for the year may be described as fair.

The meager evidence which I have been able to present concerning the results of the State Planning Commission's work is so inconclusive, that at present it does not seem possible to render a verdict, either favorable or unfavorable, concerning it. We must, therefore, be content to wait until further experience shall demonstrate its success or failure. If it should prove successful, capitalism will in all probability seek to imitate it. This raises the interesting query, how far it is possible to work out a system of planned production in a capitalistic economy. I have already called attention to certain features in the evolution of capitalism which seem to indicate that it is moving away from pure individualism toward a greater measure of co-ordination and unity. I have pointed out how integration is bringing more and more scattered businesses within the scope of single organizations, and how governments are tending more and more towards forms of intervention in industry which may lay the groundwork for more authoritative central direction of our economic life. There is a closer analogy between some of these tendencies and the Russian system than may at first be apparent. The control of investment funds by powerful groups of bankers has in it something suggestive of the capital allocations of the Soviet government. The subsidizing of certain industries, such as the merchant marine, or better still, the provision of certain facilities at a loss, to be made up out of taxes, as in the case of the post office, is not unlike the Soviet practice of using the profits of some industries to assist certain others which it desires to promote. We have even gone so far in this country as to set up a revolving railway fund, in which the excess profits of the stronger railroads are to be used to provide capital needed by the weaker ones. The steadily increasing functions and powers of such bodies as the British Board

[25] These data are from summaries of Russian articles, in *Russian Economic Notes* of the U. S. Department of Commerce, November 7, 1928, and August 20, 1928.

[26] "L'exercice économique 1927-28," in *La Vie Economique des Soviets* (November, 1928), pp. 1-3.

of Trade, or the United States Department of Commerce, may be regarded as further indications of a tendency toward a greater degree of general supervision of economic activity by the governments of capitalistic nations. This reached its highest development during the World War, when prices were fixed by state commissions, and essential industries were encouraged at the expense of non-essential by a system of priorities, rationing, and other means. But we have moved back from this extensive regulation toward a greater degree of individualism, and it cannot yet be said that we have any single group or authority which is consciously performing the function of co-ordinating the economic process as a whole. Individual corporations plan their programs months and years ahead, on the basis of careful statistical records; but comprehensive planning of our national economy in its entirety we do not have. Whether it is possible to have it without definitely abandoning the principles of capitalism is problematical; but at least this much of the Gosplan idea might be incorporated into our system without doing violence to its essential features: We could set up an advisory planning commission, attached to the legislative or administrative branch of our government, which could be of great assistance in suggesting and shaping economic legislation; and it might be able to promote much voluntary co-ordinated activity among business men without encroaching on their prerogatives as independent business entrepreneurs. Germany already has established a Federal Economic Council, which is an advisory body consulted by the Reichstag on all economic legislation. It is entirely possible that this idea will spread, and that similar bodies, more or less closely approaching the pattern of the Gosplan, may be formed in other countries.

The history of civilization is a record of man's increasing control over his environment. The control of economic institutions is one phase of this general progress. Why should we not extend it to the economic process as a whole? Whether it be done along capitalistic or socialistic lines, it seems logical to expect that the movement in this direction will be continued. If it fails in one form, it may be tried in another. Meanwhile, the experiment of the Gosplan in Soviet Russia should be watched with interest.

THE RUSSIAN ECONOMIC SITUATION—DISCUSSION

PAUL H. DOUGLAS.—Since Professor Bye in his admirably lucid paper has primarily discussed the machinery and the quantitative accomplishments of the centralized planning of production in Russia, I should like to concentrate my attention upon the policies and politics which have developed in Russia concerning the fixation of prices and the determination of the quantities to be produced.[1]

Before we can understand the Russian economic situation, we must first recognize the fact that Russia is operating not under one economic system but in reality under two. There is not only the controlled socialistic economy which Professor Bye has described in which the quantity of production, the general price level, the prices at the factory of individual manufactured commodities, and the investment of fresh capital are determined by a central board but there is also a competitive and "free" economy in which consumers are within broad limits, given freedom to expend their incomes as they wish, and in which private trade is permitted in so far as retailing is concerned. The co-existence and functioning of these two diverse types of economic organization have given rise to some very interesting and at least superficially anomalous and paradoxical situations which throw real light upon the problems of production in a socialistic economy.

The revival of agricultural production following the famine of 1921-22 gave an increased effective demand to the peasants for the city products of textiles, boots and shoes, nails, hammers, sugar, etc. But in the face of this increased demand, the production of these goods, although increasing from the almost utter breakdown of 1921, was still below the pre-war level and indeed remained so until 1926-27. This so-called "goods shortage" was a shortage of consumers' goods and the state trusts in these branches were able to raise the prices of these products and reap handsome profits.

In the face of this disparity between the quantities demanded and supplied of these commodities, three divergent policies were advocated which involved the future of Russian industry.

(1) Some urged that Russia should import large quantities of textiles from Western Europe where the price level was lower and sell them to the peasants at the higher Russian price level. This would have satisfied the demands of the peasants for commodities and would have meant immediately greater profits for Russian industry subject to those reductions in price which would have been necessitated for the Russian manufactured textiles. Since Russian manufacturing costs were then however much higher than in Europe, this policy if persisted in would however have meant that Russia would have become primarily an agricultural country dependent

[1] For information supplementing two of Professor Bye's comments concerning the productive achievements of Russian industry under socialism, see my analysis in *Soviet Russia in the Second Decade*, pp. 217, 239-47.

on Western Europe for its manufactures. Such a result would have been welcomed by the Social Revolutionary Party which as the spiritual descendant of the Narodniki movement had always favored agriculture and the peasant but it could not be accepted by the Communist Party. Communism in both theory and practice depends for its strength upon the urban industrial workers who, to use both a military and a bacteriological analogy, are to be at once the spearhead and the infection centers of the Revolution. It was as inevitable, therefore, that the Communist Party should reject a policy which would decrease the number of its members as that the Republican Party in this country would reject a low-tariff program which would lessen the power and injure the pocketbooks of the Eastern manufacturers.

(2) A second policy which was advocated by some, most notably by Ossinski, now the head of the Central Statistical Bureau, was to spend the major portion of the profits in importing textile and other machinery. While this policy would not have given immediate relief, it would have alleviated the situation in a year or so when the new machinery would have turned out a vastly increased volume of textiles, boots and shoes, and other needed products. This would have built up a much larger field of manufacturing industry than if the consumers' goods had been imported but such a policy would have meant that Russia would have become primarily a manufacturer of goods in their final stages and would have been dependent on foreign and capitalistic countries for iron, for steel, and for machinery. She would thus have failed to realize the maximum degree of industrialization and hence the communist movement would have fallen short of its highest potential strength. In the event of war with the capitalist countries, Russia would moreover have been at a crucial disadvantage by lacking those very industries which are necessary for its successful conduct.

(3) It was therefore inevitable that the policy finally adopted was one which pooled the major portion of the profits from the so-called light industries and devoted them in the main (although not exclusively) to the building up of the heavy or basic industries; namely, the coal mines, blast and open hearth furnaces, rolling mills, foundries, machine shops, and machine manufacturies. The major portion of the surplus energy was therefore devoted to building up an integrated industrial system which would furnish as many recruits for communism as possible and increase the military power of the Soviet Union.

But while such an industrial program would ultimately result in more machinery and hence in a greater output of consumers' goods, there was an interregnum during which the production of the final industries was still relatively low. Under the capitalistic price system with which we are familiar, this relative shortage of textiles, etc., would have resulted in the competitive bidding up of prices by the consumers in order to secure what was available and consequently in high profits for the industries which manufactured consumers' goods. This in turn would have led to a flow of fresh capital to these industries and hence to an increase in their producton. This would have lowered the prices and profits in these industries to a point

where an equality with the average rate of profit in other industries would have been established and at least a temporary equilibrium restored.

But Russia was and is operating under an ostensibly controlled economic system and the Communist Party did not wish to charge the maximum prices possible for consumers' goods since this would have estranged the peasants by still further reducing the exchange value of each unit of agricultural produce. This was already very much below the pre-war ratio, and to lower it still further was thought to be dangerous. The following steps were in consequence taken: (1) The prices charged at the factories by the state trusts were fixed at points which although yielding the state trusts very comfortable profit margins were appreciably less than the prices which could have been secured under a competitive system. (2) However, if the goods were to have then been disposed of to private traders who would have exacted the competitive price from the consumers, the net result of the abnegation of state industry in refusing to absorb the net difference between cost and competitive price would have been to divert this huge differential to the private traders. The hated Nepmen and not the ultimate consumer would thus have reaped the fruits of socialistic self-denial. The state trusts therefore adopted the policy which has come to prevail in Russia for all commodities of which there is a shortage; namely, that of giving the socialized agencies the first opportunity of securing them. Just as agricultural machinery is first disposed of to the state and collective farms, and vacant jobs are first given to trade-unionists, so the state and co-operative stores were given first call on consumers' goods. Private traders were supplied with consumers' goods only after all the demands of the non-profit making wholesale and retail agencies had been satisfied. This meant in practice that virtually the entire production of these commodities was disposed of to the state stores and to the co-operative wholesale (Centroyseus) and thence to the retail societies. (3) The Communist party, which is the real central planning body and not the Gosplan, then decided that the consumers' co-operatives, which they also controlled, should not adopt the Rochdale policy of charging the competitive price at which the quantities supplied would equate with those demanded but should instead sell the goods at cost plus a small margin for contingencies and for profit. To the cost at the factory were therefore added transportation charges, selling expenses, an allowance for deterioration, with an added loading of approximately 3 per cent for possible losses and for profits. This was equivalent to a pegged price to the consumer. The quantities of the manufactured commodities provided were, however, in general less than the quantities demanded at the prices charged. With so many claimants for the goods the problem then presented itself of determining which demands should be satisfied and which denied. We are all familiar with how this problem is settled under a competitive and capitalistic price system. Consumers compete with each other and those with the most intense desires or the longest purses bid the price up and thus eliminate those who offer less.

But since this was not possible under the price policy adopted by the Communists, other measures were instead adopted. The principle of pref-

erence to socialized agencies was carried still further and individual members of the co-operatives were given first chance for all the commodities of which there was a relative scarcity. This had the effect of driving large numbers of people into the co-operatives, the membership of which rose to 7.0 millions in 1924-25, 12.4 millions in 1925-26, 16.0 millions in 1926-27, and to the truly huge total of 22.6 millions in 1927-28. But as the number of members in the co-operatives increased and those outside the fold diminished, the policy of preference to members proved in turn inadequate and the second step of rationing was introduced. No person or family was allowed to purchase within a period more than a given maximum of the scarce commodities. Within this maximum, the goods were disposed of to members on the basis of first come, first served. This led the consumers, more particularly the wives, to flock to the stores whenever a new supply of goods was received and long queues were visible during my stay in Russia in 1927. These queues were an everyday sight in the cities.

But there were private traders as well whose stores could frequently be found almost opposite the co-operative and state stores. These private stores would also sell the same articles but at prices which, for the rationed commodities, were from 30 to 50 per cent greater. There would be no queues in front of them, however, since the higher prices kept away the great majority of persons. There were still many however with more than average incomes, especially the technicians, who were willing to pay these higher prices. They were willing to pay these higher sums not only because they had the money but also because they would thus be able to avoid the necessity of standing in line for long periods (and time is beginning to be valuable even in Russia) and would be certain that they could get the articles they wanted instead of facing the possibility that the supply would be exhausted before their turn or that of their wives came.

The rather extraordinary spectacle was thus presented of two price systems existing side by side, the socialistic system and the competitive capitalistic system, with the prices in the latter ranging from 30 to 50 per cent above the former on scarce commodities.[2] The inevitable consequence of this disparity was of course a bootlegging of goods from the socialistic to the capitalistic price system. Many members of the co-operatives would buy goods from the co-operatives and then under the cover of night take them to the back doors of the private traders and dispose of them for from 15 to 20 per cent more than they had paid for them. The private trader would in turn sell these goods the next day for from one-third to one-half more than their price in the socialized stores. As a matter of fact, the private traders came less and less to depend on such adventitious privateering by co-operative members to furnish them with supplies and increasingly sent out hired agents who were also members of the co-operatives to purchase the much sought after commodities and then to bear them back to the private stores. These practices were continued despite all the efforts of the co-operatives to check them by dropping from membership all who

[2] In 1927 the average by which the Moscow prices in private trade for *all* commodities exceeded the prices of the socialized agencies was approximately 18 per cent.

later resold the goods for profit.[3] Although this is almost as serious a punishment in Russia as is dismissal from the Methodist Church in Tennessee, the lure of profit was so great as to cause a considerable deflection of goods from the public to the private stores.

The result of the whole situation was therefore that the difference between the cost of the consumers' goods and their competitive price was shared not only by the state trusts with their higher profits, and by the consumers in the form of lower prices than those they would otherwise have paid, but also by the private traders and speculators in the form of profits made under the capitalistic price system.

This situation was indeed the chief occasion for the split within the Communist Party between the Trotsky minority and the majority led by Stalin, Rykov, and Bukharin. Trotsky declared that the state trusts rather than the private traders should receive the profits arising from the disparity between the controlled system of prices and the competitive possibilities. He urged, therefore, that the prices at the factory be raised to what they would be under competition. Prices to the consumers would in consequence be raised but the profits of the Nepmen would be largely transferred to the state trusts and would be used to hasten still further the industrialization of the country and to grant further increases of real wages to the industrial workers.

Stalin opposed this policy on the ground that while it might decrease the profits of the private traders (as it would have done), it would also cause higher prices for those purchasers who purchased to consume rather than to resell. These ultimate purchasers were in the main the great mass of peasants. Stalin pointed out that Trotsky's policy would still further increase the disparity between the prices of manufactured and agricultural goods. At the time when this discussion of policy was at its height, namely in December, 1926, the price index of manufactured goods on a 1913 base was 204 while that for agricultural commodities was 155. In terms of city prices therefore the purchasing power of a unit of farm products was approximately 25 per cent less than it had been in the pre-war period. If prices at the farm had been taken, the disparity would have been greater. Stalin did not want to deflate the peasants any further lest this should lead to active opposition on their part against the Communist Party. Soviet Russia must go forward, he declared, by the union of city workers and peasants and every effort should be used to prevent opposition between the two from developing.

In this struggle, Trotsky was defeated. The prices of manufactured goods were reduced by economies during the course of the next nine months to the extent of approximately 6 per cent although not by the 10 per cent which had been scheduled. The continuance of opposition by Trotsky led finally in the autumn of 1927, as the whole world knows, to his banishment and to the breaking up of his faction within the Communist Party.

[3] The closest American analogy to the Russian situation is the sale of tickets for the important football games of the major universities. Here the demand exceeds the supply at the prices charged, rationing is resorted to, and strenuous efforts are made to prevent re-sale at higher prices.

Meanwhile the processes of time and the increases in production have largely rendered obsolete the issue over which Trotsky and Stalin contended for power. As the supply of textiles, clothing, boots and shoes, and sugar increased during 1928, a much closer equivalent was effected between the quantities supplied and demanded at the prices charged. The length of the queues diminished and in consequence there was not so much inducement to purchase from the private traders, whose prices in turn more nearly approached those prevailing under the socialistic price system.

In recent months the grain shortage in the Ukraine and the black-earth regions has led to a relative scarcity of wheat in the industrial centers. While conclusive information is lacking, it seems probable that the familiar phenomena are again repeating themselves in the cities with the lines now forming for food products rather than for textiles and manufactured goods.

The whole experience raises some very interesting questions of price and production policy in a controlled socialistic economy where freedom of purchase rather than automatic rationing is given within broad limits to the consumers. The two main alternatives as regards prices are whether they shall be allowed to adjust themselves at their "normal" or competitive level or whether they shall be pegged to the consumer. If the former policy is adopted, then some further consequences necessarily follow: (1) The consumers' co-operative movement will operate under the Rochdale system. (2) There will be rivalry between private trade and the co-operatives for the profits of retailing. (3) There will be rivalry between the marketing mechanism and the industrial mechanism as to the relative share which each shall secure of the profit margin between cost and price to the consumer. There will also be conflict as to who shall bear the brunt of the losses when production has exceeded the quantities demanded so that, in order to clear the stocks, it has been necessary to slash prices below cost. (4) The height of profits will then, as in capitalistic society, become the indicator as to the relative commodities for which an increase in production is most zealously demanded by the consumer.

If on the contrary, the policy of pegging prices is followed, another set of policies will come into effect. (1) The consumers' co-operative system will necessarily operate on a cost-plus basis. (2) On goods for which consumer demand is greater at the prices charged than the supply, preference in sale will be given to the co-operatives and state stores and to their members. (3) Where supply is scarce relative to the demand, some system of rationing will be needed to apportion the goods among individuals. (4) Despite all efforts private trade in the relatively scarce articles will spring up outside the socialized system of distribution and prices within this capitalistic system will adjust themselves according to the accepted principles of value. The capitalistic price level for these commodities will necessarily be higher than the level within the socialistic system. This will provoke an illicit flow of commodities from the socialistic to the capitalistic system. (5) The two best indicators of the relative degree to which the consumer demand for a product is unsatisfied will be the length of the queues seeking to purchase the goods and the relative difference between the socialistic and

the capitalistic price level. When other things are equal, the greater the proportion by which the latter exceeds the former, the greater the quantity of goods needed to equate the supply with the demand.

In dealing with the last few points, I have treated only those cases where, under pegged prices, the quantities produced are less than the quantities demanded. In the opposite situation, neither queues nor private trade develops. The problem then is as to who shall bear the burden of the goods which are not sold. Consumers' co-operatives and the state trusts will naturally contest this point and seek to throw the losses upon the other.

There are several other problems arising out of the tendency in economic life to seek an equilibrium of equalized return such as the flow of agricultural labor to the cities in order to share in greater gains made by the urban workers and the consequent creation of a large amount of unemployment. An adequate discussion of these points is, however, impossible in a paper of this compass and must be postponed until another occasion.

Lewis L. Lorwin.—I have no quarrel with Mr. Bye's paper, in so far as its main theme is concerned. I think it is a clear, accurate, and fair description of the Gosplan, and written in a spirit of objectivity. When one remembers the complexity of the Russian economic situation, the fact that Mr. Bye has not observed it first hand, and that he has had to rely on secondary sources, his performance cannot but be commended.

Mr. Bye's paper breaks up logically into four parts: first, he states the objectives of the Russian State Planning System; secondly, he describes it; thirdly, he attempts to evaluate its success; and fourthly, he draws conclusions for the rest of the world, especially for the United States.

There are some statements in each of these four parts which need modification, if some current misconceptions of Russian economic policy are to be avoided. Following some of the writers whom he has read, Mr. Bye assumes that one of the main objectives of the Central Planning System in Russia is to "make the Soviet Union as nearly self-sufficient as possible," which policy, he says, is "dictated not only by practical considerations, but also by communist theory." Such a statement of objectives puts the Russian experiment in a false perspective. No communist wants to make of Russia "a great, self-contained workers' commonwealth," as Mr. Bye thinks. Communism is not a theory of self-contained states *à la Rodbertus*. On the contrary, the communist concept is that of a world economic society in which all the resources of the world are utilized as a unit on the basis of a common world plan and with a view to satisfying the needs of all countries and peoples regarded as equal members of a world community. There is no place in this ideal for self-contained states of any kind.

If time and space permitted, it would be interesting to enter into a discussion of what are the true objectives of Russian economic policy. One cannot answer this question without keeping in mind the fifty years' history during which the controversy of the true destinies of Russia has changed in form, but not in essence. Since the sixties of the nineteenth century, there have been in Russia two schools of thought. One held that Russia must remain an agricultural country and that she can best serve her own

interests, as well as the interests of the world, by developing her agricultural resources and by building her civilization on the basis of a scientific and socialized system of agriculture and of a village community life. The other school, on the contrary, believed that economic power and a higher civilization could be achieved only on the basis of a developed industrialism and advocated a policy of rapid industrialization for Russia. The communists today are the direct descendants of the representatives of the second school. But the old controversy finds its echo in communist ranks today, in the struggle which centers around the issue of the rate at which industralization in Russia should proceed—the issue which is at the bottom of the internal political fight between Stalinists, Trotskyists, and others.

Without a consideration of this controversy in its older as well as in its present day form, one cannot but miss the conflict between conscious and unconscious motivation in the economic policy of Soviet Russia. Consciously, communism aims at building up a strong industrial Russia as a step towards a professed world revolution. Unconsciously, the communists may be using a communist doctrine of a world society to build up a self-sufficient and powerful state in line with the aims first laid down by Peter the Great. The interaction of these conscious aims and unconscious efforts is neither simple nor quite clear as yet.

In the descriptive section of his paper, Mr. Bye makes a statement on the accumulation of capital to which I should like to call attention. It is not quite correct to say, as Mr. Bye does, that Soviet economic policy "abandons private accumulation as a source of capital formation." As a matter of fact, the Soviet authorities and those responsible for economic policies are trying to stimulate savings and private accumulation as a means towards capital formation. While I was in Moscow during September, the Soviet government was using the most ingenious methods in order to place as widely as possible its so-called Second Industrialization Loan, not only among the workers and middle classes of the cities, but also among the peasantry in the villages. Since 1921, the Soviet government has issued a number of internal loans of various kinds, and while the first loans were placed almost entirely among the trusts and syndicates, the recent loans have been more and more distributed among individuals. Professor Bogoliepov, of the State Planning Commission, told me that, according to his estimate, the government internal loans were held by some eighteen million individuals. The funds in the savings banks which amount to several hundred million rubles also represent the savings of individuals, largely in the cities. True, these funds are not so much the result of laying aside a surplus, as of a policy on the part of the government to force savings. But, however this is done, the purpose and effect are the private accumulation of capital.

While this may seem a minor point, I am raising it to direct attention to a major question; namely, that the Central Planning system of Soviet Russia cannot be adequately understood when considered apart from financial institutions and from the financial mechanism which underlies the Russian system of production. It is comparatively simple to describe the organization of the Gosplan and the functions which it assumes to perform.

This, as I said before, Mr. Bye has done well. But it is far from simple to analyze the processes through which the economic life of Russia today achieves its ends or fails to achieve them. To do this, it is necessary to make clear the cost accounting methods of those in charge of industry, the methods of fixing prices, the peculiar relations of peasant and private economy with the government system of production, the non-economic motives in the direction of economic activities, and so on. For we have in Russia a complex system in which prices, markets, and competition are intertwined with an elaborate mechanism of conscious control and which cannot be described by any one simple word.

I am inclined to stress the point because it seems to me that a consideration of the economic system of Russia in the complexity of its interrelations would enable one to come nearer a correct evaluation of its success so far, and of its validity for the future, which is the aim of the third part of Mr. Bye's paper. It is here that most students of Soviet economy have fallen down. Take, for instance, the three tests which Mr. Bye applies: the increase in income, the capacity for minimizing industrial crises, and the conformity of performance to plan. There can be no question that there has been a great improvement in the economic condition of Russia since 1921-22 and that the national income of Russia has increased. But that merely begs the question whether Russia might not have made greater strides in her economic progress during the same years under a system of private initiative and enterprise.

The second test would be a good one, if it could be applied. I was in Russia in 1921-22 for ten months and watched the change from the so-called War Communism to the present New Economic Policy. Russia was then literally rising out of the wreck, and there could be no talk of an economic system at work. Great credit is due to the energy, persistence, and courage of the people who took hold of a country which was falling to pieces and who put it on a working basis in a few short years. But to speak of gluts, business depressions, and industrial crises in Russia between 1921 and 1923 is to have no picture in one's mind of the concrete process by which Russia emerged from a condition of famine and disorganization in which she was then into the condition in which she is now.

The third test, that of agreement between plan and performance, is just as hard to apply. For whether the plan mapped out for any one plant or industry in Russia is carried out 100 per cent or less or more, may mean a number of different things. It may mean that the task was for one reason or another set low; or it may mean that special efforts were made to carry it out at the expense of other industries. Mr. Bye uses statistics to show that the plan for 1927-28 was carried out fairly well. His statistics are somewhat antiquated. There are more recent figures which differ somewhat from those he quotes. But whatever data one uses, one cannot adequately interpret them without more detailed knowledge than we have at present of how these figures were obtained and what they reflect.

In connection with this third test, I should like to say that a detailed and

comparative study of the industries of Russia would yield better results than the general method which has so far been used. It is a matter of easy observation that some industries in Russia are doing well, as for instance the oil industry, to some extent coal mining, and textiles. An examination of Russian industries also shows that the Soviet government has built up some new industries, such as the chemical industries, aviation, and the electrical industries. This indicates that the method of central control and of collective management can work and does work. On the other hand, some industries in Russia have been slow in their rehabilitation and in their development such as the iron and steel industry, construction, etc. I think there is an excellent chance here for students of economics to dig deep into the problems of the conditions under which one or another method of industrial management and control can be successful and vice versa.

In more general terms, what I have in mind is that it is necessary to view the Russian Central Planning System relatively and historically, not as an abstract idea, not as an exercise in textbook economics, but as a great effort of a great people, conditioned by experiences of war and revolution and determined in its further evolution by the needs of national existence and by the forces of international adjustments. It is useless to try to measure it by traditional economic yardsticks when it has been in existence only five years.

What I have said is not intended in any way to minimize the importance of what is being done in Soviet Russia. On the contrary, I am one of those who are convinced of its great historic significance, and it is because of that, that I plead for a more rigorous approach in studying it. It appears to me, however, that for the time being the main value of Russian plan-economy to the rest of the world is its challenge to the capitalistic faith in the ultimate harmony of confused individual interests and unknown social purposes. Perhaps one should say more than that: Russian plan-economy is a symptom, an indication of a trend which is already widespread and which is likely to become world-wide. For, as Mr. Bye points out, there is the Wirtschafts-Rat in Germany, the Counseil Supérieur Economique in France which are akin to the Supreme Economic Council in Russia, and there are many indications of planning in the economic life of other countries, the United States included.

Because of this, I also beg to differ from Mr. Bye's conclusion in the fourth part of his paper. I do not think that America should adopt a policy of passive waiting towards the Russian experiment. Americans have been too prone to let the rest of the world take responsibility, while they sat back in their easy chairs in a pose of watchful waiting. I should recommend action and participation in thinking out the problems involved in the idea of a planful and controlled national economy. This is not the time nor place for presenting any detailed plans for such purpose. But it may not be amiss to refer to a scheme which I have had in mind for some time and which seems to me the most practical for the United States in its present stage of development.

The scheme is that of an annual conference or congress of representative men and women with committees working through the year and reporting to the annual congress. If a name were necessary, I should suggest calling it the Annual Economic Congress of the United States. The members of this congress should be selected from lists of specialists in different fields by the organized economic bodies of the country-farmers' associations, employers' and workers' organizations, consumers' leagues, and so on. A permanent body of trained men should be maintained by the congress to correlate existing and to assemble new information necessary for the purposes of the congress. Regional and state committees should do the same work for their limited areas, helping the work on a national scale. Some arrangements would have to be made for co-operation with government departments.

It is well known that we have at present in America a great deal of intra-plant planning. It is also true, as Mr. Bye indicates, that there are several ways in which banks, central agencies, and the government, guide economic activities into one or another channel. I think we can go further and say that there is more control of economic life in the United States than we are usually willing to admit. We become aware of such control when the Federal Reserve Board suddenly issues an order concerning the discount rate or when some bankers call a tune to which the Stock Exchange begins to dance.

But while we have control, we have no such thing as national planning For a planful system of economic life involves three features. One is a consideration of the social purposes for which economic activities are carried on. A second is the viewing of the resources of the country as elements to be used for a common purpose. And third, is a scientific technique which would enable a country to know its maximum resources at any time and to make use of them, if necessary. We had the beginnings of these three elements during the war, namely in the War Industries Board and in the National Council of Defense, but we have lost them since.

I venture to say that our economic development in the next ten or fifteen years is going to make some form of planning on a national scale a problem of practical economics. Carried along by the greatest economic élan in the history of the last hundred years, we are proceeding haphazardly and following policies which carry in them elements of conflict. Questions of the power base of our industries and of its organization, of the adjustments between mass purchasing power and productive capacity, of the character and quality of our labor supply, of the direction of our rapidly growing capital accumulations are going to come up against our policies of unlimited individualism, of labor control, tariff making, and so on, and will necessitate a reconsideration of our methods of leaving our economic destinies to change and to unco-ordinated individual and group interests.

Would it not be within the scope of the work of an organization of economists, such as the American Economic Association, to take the initial steps in promoting action along the lines here indicated. Whether research shows that a system of planful economy is neither feasible nor desirable in the United States or vice versa, a knowledge of what is involved in the idea

and of the possible methods by which industrial budgeting and national planning may be carried on, would in itself be of great scientific and practical value.

Z. Clark Dickinson.—There are two senses in which we may use the expression "central planning of economic life in Russia." In a broader sense, the Bolshevist régime has been general manager of the nation's business ever since 1917, trying now one plan, then another, but always centrally planning, always trying to substitute conscious Socialist direction of the economic machine, so far as possible, for the spontaneous guidance of supply and demand. Only in a narrower sense may we identify central planning with the Gosplan, which is a politico-economic technical device for *improving the plans* of the political chiefs who have held power since the Revolution. The era of the Gosplan has roughly coincided with that of the New Economic Policy, which has made the future less easily calculable for the central planners than is the case in a thoroughly militarized régime.

The Gosplan itself offers, as Professor Bye has shown, some very interesting problems; but I shall turn at once to the question of the general results of Bolshevist centrally planned economic politics as a whole. With respect to crises, it is certainly probable a priori that a nation so nearly socialistic as is the Soviet Union should escape many of the phenomena of trade fluctuations. The experts in the Gosplan are constantly taking comprehensive business weather observations; and two other factors have been favorable up to date, the absence of major convulsions in the outside world, and the fact that Russia is obliged to produce mostly plain necessities of life, without frill or style, which apparently should make the cycle problem easier than in any country whose high productivity permits whims and fashions to consumers. It seems, however, that the Soviet planners have been considerably baffled. The peasants fail to bring as much grain to market as is expected, so that in the present year the government is actually obliged to import cereals. It is probable that smuggling across the frontiers has reached high proportions under the stimulus of the profit the government seeks through its monopoly of foreign trade.[1] Finally, the phenomenon of anywhere from one to two and a half millions of workers constantly unemployed, in a country so little industrialized, certainly denotes unplanned maladjustments. Perhaps this unemployment is partly due to the country people having too much freedom to drift into the towns, seeking the better living which the State is providing for its class-conscious proletariat.

The second test—production—is acutely controversial, and I have studied but an insignificant fraction of the available evidence. Yet I shall offer some small grounds for the impression that Professor Bye's conclusion is too favorable, though apparently output has been decidedly better than nearly all of us would have predicted five years ago. The points at issue are: (1) Has production been rapidly increasing since 1921? (2) Is it now on the whole above the pre-war level? (3) Is it still increasing swiftly? To the first question everyone would say yes.

[1] S. N. Prokopovitch, "The Soviet's Economic Dilemma," *Current History*, November, 1927, p. 180.

Industry was so shattered by 1921, with idle plants standing ready to be utilized, that it is not miraculous if production rose rapidly from this abnormally low level for at least a few years. The last two propositions, however, I do consider open to doubt.

The general handicaps which would make low productivity probable a priori are obvious enough. The war period lasted two years longer for Russia than for other nations, and produced more internal destruction. Almost no foreign capital has come in to facilitate recovery and expansion. The loss of Polish territory alone cut off most important industrial sections, and the Soviet government has done its best to restrain trade across the new frontier by means of its fiscal monopoly. The agricultural program—bonanza farms, tractors, agronomes, and all—may yield large results ultimately, but we should expect state agriculture to be even less efficient than state factories, and to be specially hampered in Russia by the dense population on the fertile lands. It is hard to believe that in any country an efficient state machine could be built up in a few years, able to digest the tremendous dose of state factories and other industries which the Soviets have dumped on to their bureaucracy. Above all, the country suffers from scarcity of technical and managerial skill. Much of what it had was driven abroad, practically none is being imported, while the Marxian orthodoxy and still more the lack of funds obstructs large-scale effective training.

But have we not statistical evidence that production is at pre-war levels, and still on the up-grade? Perhaps, but the exhibits commonly offered require several important qualifications. For example, they usually deal in aggregates, neglecting the 10 per cent or more increase of population. The poor-quality factor is very baffling statistically and hardly less so are the various problems of price-indexes. The internal price-level as a whole is inflated more than prices on a gold basis in other lands, and industrial prices, of course, compare much more unfavorably with pre-war than agricultural. On these as well as other grounds the claim of Soviet economic success is belittled rather circumstantially by anti-Bolshevist Russian economists, e. g., by ex-Finance Minister Kokovtzoff in the *Revue des Deux Mondes* of September 15th last.[2]

Let me offer a couple of examples of the contradictions in our evidence. Mr. Stuart Chase tells us that "the total value of production measured in pre-war rubles as calculated by Professor Gromann [of the Gosplan] for 1926 was 7,360,000,000 for industry and 11,305,000,000 for agriculture, a grand total of about 20 billion rubles or roughly 10 billion dollars, approximately the same as in 1913."[3]

This calculation apparently refers to aggregate rather than per capita product, but there is a much more serious question involved. When we turn to a reference to this Gosplan estimate for 1926 by Litoshenko, whose tone is in no wise hostile to the Soviet government, we find he takes the 20 billions to be *current* rubles, each worth not much over half the 1913 ruble

[2] *Les Soviets devant une Nouvelle Crise Economique.*
[3] *Soviet Russia in the Second Decade*, p. 42 (1928).

within Russia. He reduces the figure to a per capita income of 78 pre-war rubles for the whole Soviet Union in 1926, and compares it with 101 rubles per capita in 1913 in European Russia.[4] Of course, the pre-war statistical situation in Russia makes comparisons unavoidably unsatisfactory. Litoshenko further remarked, in 1927, "The rate of increase [of production in the Soviet Union] is becoming slower as . . . . the abandoned areas are brought under cultivation again, and as old industrial plants are restored to full operation."

Then there is the question whether Soviet Russia is making net additions to her capital. Professor Bye speaks of large "appropriations" of capital for state industries, and Mr. Chase's version is that some 5 billion rubles' worth of capital investment was scheduled for 1928.[5] I take this amount to be at least 25 per cent of the present national income of the Soviet Union, which seems to be a much larger fraction of current production than is devoted to capital annually in the United States! Count Kokovtzoff, on the other hand, cites numerous recent statements in the Soviet press to show that equipment is still going from bad to worse. He gives, in this connection, a series of annual industrial accident figures, showing an appallingly rising trend, and he maintains that the current operating costs of state industries in effect are subsidized at the expense of agriculture.

Whatever may be the trend of production, however, we should not neglect a third test of Soviet economic policies—the test of distribution of wealth and income among persons. Incomes are far from equal in Russia, but undoubtedly levelling policies have gone far there and are being steadfastly pursued. Quite likely this means that the production figures understate considerably the present total economic welfare, as compared with 1913. Doubtless greater inequalities will develop unless production can be increased, or at least maintained by existing plans; however, from other points of view, the levelling already seen has been secured at a high price.

J. M. Pavloff.—Professor Bye, in his interesting paper, presented a careful study of the development of planning organizations in the Soviet Union and gave a somewhat detailed description of the methods and technique of their work and achievements. This is about as much as could be said on the subject, considering the scanty literature on Soviet planning existing in languages other than Russian.

The purpose of my paper is to point out certain methodological approaches to the work of planning and to emphasize the organic relationship between the economic basis of the Soviet State and the problems of planning; also between these problems and questions of economic policy raised by governmental organizations.

This problem of planning represents a novel experiment in economic history and must needs interest the economic student, irrespective of his political sympathies and affiliations.

The Soviet economic system, in the form which it took after 1921, i. e.,

[4] L. N. Litoshenko, "The National Income of the Soviet Union," *Quarterly Journal of Economics*, November, 1927, p. 81.

[5] *Soviet Russia in the Second Decade*, p. 34.

after the inauguration of the New Economic Policy, attempts to solve in practice that theoretical problem which was originally propounded by Quesnay and has since his time continued to be a subject of economic discussion. This problem is the equilibrium of national economy, under static and dynamic conditions. In its first form the problem is based on the assumption that production does not increase in volume but remains constant from year to year (simple reproduction); in the second form it is assumed that the volume of production increases from year to year (reproduction on an enlarged scale).

To outline the transition from a given state of economic equilibrium to another higher one, with all the composite changes such a transition implies, is one of the objects of Soviet economic planning. Under a competitive system of private, independent producers, which is the system prevailing in all countries, except Soviet Russia, the problem of economic equilibrium is solved not by direct regulation of production but in the market, which regulates in an indirect manner the distribution of social labor and capital among the various branches of national economy. By means of price and rate of profit the market signals to the private producer what, how much, at what cost, and of what quality to produce. If an individual producer or an individual branch of industry puts on the market more goods than the market can absorb, the price of this product declines. With the decline in prices, profits are reduced and, in certain cases, may be wiped out, resulting in throwing out of line the given branch of industry, to the advantage of others. Capital and labor from this branch of industry will be transferred to other industries and this flow will continue until the output of these branches of industry at the prevailing price can be absorbed by the market. When this limit is reached the migration of capital and labor begins once more. This migration from one industrial establishment to another, from one branch of national economy to another, is continuous and at any given moment of this continuous movement there is set up that dynamic equilibrium of national economy which assures its progressive development. The disturbing of this condition of equilibrium is accompanied by crises during which there takes place a redistribution of capital among the leading branches of national economy after which further economic development proceeds on a new technical basis.

In a capitalist society production is carried on independently by a mass of individual or corporate producers. Autonomy of individual producers reflects the scattering amongst them of legal titles to ownership in the instruments of production.

The October Revolution in Russia declared the nationalization of industry, thereby transferring the legal title of ownership to the state, which now appears as a producer with a single national will and a single production plan. Factories, mills, mines, oil fields, entire branches of industry, are but separate parts in the unified economic organism, subject to the one directing center—the Gosplan. As within the limits of a factory or a mill directions of the manager are obligatory for all departments and shops of the plant, by virtue of the fact that the manager is either himself the owner

or acts in the name of the owner, as within the limits of a trust the decisions of the board of directors are obligatory for all plants which enter into the trust by virtue of the fact that the directors are either the owners themselves or act in the name of the owners; so, likewise, the administrative instructions of the Gosplan are obligatory for all nationalized branches of national economy in the Soviet Union, because the instructions of the Gosplan are given in the name of the collective owner—the Soviet State.

The very idea and possibility of economic planning on a national scale arose as a result of the October Revolution and of those radical changes which the Revolution effected in property relations within the Union. In the absence of these changes, economic planning to the extent to which it is done in the Soviet Union, is, to my mind, impossible. It does not follow, however, that the Soviet experience in economic planning cannot be utilized in the preparation of plans on a smaller scale, for instance, for a large corporation. Planning for three or five years ahead has been adopted by a number of large American corporations, and I can very well conceive the possibility of some concerted planning of large-scale industry in this country as the result of intercorporate conference, perhaps with some kind of official co-operation.

The Gosplan in the Soviet Union has taken on the functions of the market; it must solve the problems of dynamic equilibrium; it undertakes rationally to distribute labor power and capital among the various branches of industry. In practice this means that the Gosplan must determine the quantity of production, costs, prices, the movement of prices, the absorptive capacity of the market, the carrying capacity of railways, the volume of currency circulation, etc.

Since an isolated and self-sufficient national economy exists only in theoretical discussions of economists and, in reality, the economy of any contemporary country is closely tied up with the world economy, the tendencies of the development of the latter cannot be left outside the field of vision of the Gosplan. One has only to examine the contents of the control figures of the National Economy of the Soviet Union to realize the wide range of questions which are considered by the Gosplan. The contents include the following: 1. Capital investments in industry. 2. Industry. 3. Fuel. 4. Electrification. 5. Agriculture. 6. Forestry. 7. Transportation. 8. Communications. 9. Building. 10. Labor. 11. Foreign and domestic trade. 12. Prices. 13. Budget. 14. Credit and currency circulation. 15. Cultural development. 16. Regional economy. 17. The Soviet Union and world economy.

The task is tremendous; it involves all phases of national economy. Has the Gosplan been equal to its task?

Professor Bye in his paper gives certain data showing the extent to which the plans have been fulfilled. These data show that the actual economic development has, on the whole, corresponded to expectations and forecasts of the programs, exceeding them in certain sections of industry and falling behind in others. Speaking abstractly, any discrepancy between actual economic development and the forecast, or any plus or minus of total produc-

tion as compared with the plan, is an indication of a deficiency in the planning work. In these cases the plan has either underestimated or overestimated the real possibilities of economic development. For practical purposes, however, such forecasts are sufficient. "One hundred per cent exactness and reliability," says Professor Strumilin, one of the leading men in the Gosplan, "is something we shall be unable to find, either in our prospective and orientation plans covering a period of several years, or even in the data reported for past periods in regard to the actual scale of production, crops, and similar important items which make up our economic fabric. If, with academic pedantry, we were to demand too much of our planning estimates, then in all probability we should have to do without any plans whatever." This brings to mind the well-known anecdote of a meteorologist who guaranteed absolute exactness in his weather prediction for the next day provided he were given forty-eight hours for calculations. The practical needs of national economy call for directions at the time needed, even if there is risk of these directions containing errors, which, however, are easily corrected by drawing upon the margins or reserves set up in the plan.

The material used by the planning organizations as a basis for their forecasts consists of: (1) statistical data furnished by the various departments, in the first place by the Central Statistical Office; (2) forecasts and estimates presented by industrial organizations and representative experts; (3) sampling, analyses of data relating to typical production units, and forecasts for an entire group based upon such analyses.

The practical work of the planning organizations proceeds along three channels: (1) preparation of so-called general plans covering a ten to fifteen year period; this was started in 1927-28; (2) preparation of five year plans; and (3) preparation of so-called control figures for each year.

The object of the general plan is to draw in skeleton form an outline of the Soviet economic state as it is expected to appear in the future and to indicate the principal steps in the development toward that state. At the present time the general plan is not complete, only the very general lines have been traced of the development of the leading branches of our national economy, which in a way suggest the line of development of the other less important branches.

The five-year plan is a part, much more concrete and elaborate, of the general plan. It indicates in greater detail the rate of development of the various branches of industry, co-ordinates the growth of various industries, on the one hand, and the development of industry and agriculture on the other, and finally outlines the rate of capital accumulation in the country. For the five-year period beginning 1927-28 two preliminary plans have already been prepared and on the basis of these a final five-year plan of economic development will be issued shortly.

Finally, there are the control figures for one year only. While the control figures are a part of the five-year plan, they are very much more elaborate and detailed. The annual control figures are a plan and at the same time constitute administrative directions which must be followed by Soviet economic organs and government offices. Within the jurisdiction of each

commissariat or trust the general program is split up among the individual factories, mills, etc., which on the basis of the control figures prepare their own yearly production programs. There exists no science of planning and, I believe, there cannot be any. There is the art of planning which bases itself upon the sum total of the technical and economic knowledge and methods accumulated to date. It is based on a system of calculations and it can never be definitely determined which calculation is the most correct and exact one. In the art of planning which we may call social engineering every forward step in acquiring skill and accuracy is dependent upon the level of technical and economic science and experience.

In the Soviet Union, industry and banking have been nationalized. In agriculture the independent producer, the peasant, reigns almost exclusively. The number of farms is nearly 25,000,000, i. e., four times as many as in the United States. The peasant is the principal supplier of food products for the industrial population of the cities and of vegetable and animal raw materials for industry. The only means of expanding the production of the peasantry and thereby increasing the supply of food and raw materials for industry consists in raising prices of products of peasant labor. However, this rise in prices would lead to an increase of the cost of raw materials and labor in industry, which in turn would result in a rise of costs and prices of industrial products, the principal consumers of which are the peasantry. The question of fixing such prices for industrial and agricultural products as would reconcile the interests of industry and agriculture is one of the most difficult and complex elements of our economic planning. In the last analysis high prices are disadvantageous to both industry and agriculture. With high prices for agricultural products, the peasants would gain as producers but would lose as consumers of higher priced industrial products. High prices of industrial products would cut down the demand for these products and industry, while gaining by the high rate of profits, would be a loser through the decrease of total profits. The way out of the situation would seem to be low and continuously declining prices of both products of industry and of agriculture, resulting from reduction of production costs in both industry and agriculture. Such reduction of cost may be attained by means of changing the technical basis of our national economy. In regard to agriculture this means an adequate supply of disk ploughs, tractors, drills, trailers, threshers, harvesting machinery, combines, separators, flax cleaning machinery, cultivators, etc. The extent to which our agriculture is in need of this machinery can be realized by comparing the figures concerning the use of tractors in American and Soviet agriculture. In the United States with 6,400,000 farms there are 600,000 tractors in use, while in the Soviet Union there are 25,000,000 farms and only 35,000 tractors. Still more striking is the comparison in regard to the use of fertilizers. During the years 1922-26 Russia consumed an average of 500,000 tons of fertilizers per annum, while the United States consumed 5,800,000 tons per annum. Corresponding with the small extent to which machinery and fertilizers are used on Russian farms the yield of wheat per acre amounts to only 8 bushels as against 14 bushels in the United States. It is

possible to raise the yield of our fields and to reduce production costs per unit of output only if agriculture is "mechanized." "Mechanization" of agriculture is, however, dependent upon the development of industry, especially of such branches of industry as coal, oil, iron, steel, the electrotechnical, chemical, and machine-construction industries. To industry, therefore, as Soviet economists put it, belongs the leading part in the development of the entire national economy. Industry must pull agriculture along with it on the road of technical progress. Hence the problem of industrialization which engages so much the attention of our planning authorities and occupies such an important place in all economic forecasts and estimates.

It would be an error, however, to think that the program of industrialization seeks as its goal, to turn the Soviet Union into an independent and self-sustaining economic organism and to free it from dependence or to weaken its dependence on foreign countries. We do not put before us such an object either within or outside Gosplan programs. Such attempts would be nothing short of an unattainable economic Utopia. On the contrary, the program of industrialization, as it gradually will be put into practice, will merely transform the present dependence, will raise it to a higher level, and will greatly strengthen our contacts with the world economy. The largest foreign trade falls to the share of the most industrialized nations, as shown by this country, Great Britain, and Germany.

Soviet foreign trade, both as regards imports and exports, will grow in volume simultaneously with the development of industrialization, outlined by the Gosplan. On the import side, the Soviet Union will call in the coming years, alongside with large quantities of machinery for reconstructing and re-equipping factories, plants, mines, ports, railways, waterways, and power plants, also for the imports of technical and organizational experience, skill, and knowledge from countries most advanced industrially. International economic contacts of the Soviet Union will become not weaker but stronger.

As a part of this tremendous task before it the Gosplan had to raise the question of the most rational geographic distribution of industry among the various sections of our great country, in accordance with the available raw materials and labor power of each region, its transport facilities, closeness to the market, etc. In this country we note a movement of the cotton industry from the North to the South, which is the source of raw materials and cheap labor. A concentration of the cotton industry in New England at the present time would be an anomaly, although in the past it was brought about by historico-economic factors no longer at work. A similar situation exists in Russia, where the textile industry is concentrated in the central industrial region (Moscow, Ivanovo-Voznesensk) while cotton is grown in Turkestan, thousands of miles away. A considerable part of our metal industry is located at Leningrad, while iron ore, coal, and oil are found in the Donetz Basin, the Caucasus, and other distant regions. This anomalous distribution of industry brought about a situation in which the industry of the St. Petersburg district was supplied by British coal which was cheaper than domestic coal delivered from the Donetz Basin. The Gosplan

devotes considerable thought to the economic location of industries, planning to place new industrial establishments in those regions where they can operate most effectively and profitably. The Gosplan fully takes into consideration the changes that must take place in the coming years in various regions in connection with construction of new railways and waterways as proposed by the general plan.

The fifteen-year plan, even as general as it is today, permits us to see some of the economic contours of future Russia. These contours, vague as they are, give an answer, among other things, to the very interesting question as to the volume of imports of agricultural machinery and of industrial, railroad, electrical, and other equipment that will be required by Russia.

What will be the *tableau economique* of the Soviet Union in from ten to fifteen years? Before answering the question permit me to touch briefly on another matter. When preparing the fifteen-year plan we had in mind the United States; her economy and achievements are the goal which it is our ambition to attain. The general plan containing a forecast for fifteen years ahead has as its starting point the fact that the output of mining and manufactures in the United States is twenty times our industrial production, that the standard of living of American workers is three and a half to four times higher than the standard of living of our workers, that the productivity of labor in this country is six to eight times that in Russia, that your per capita consumption of iron and steel is 468 kg. and ours, 14 kg.; that for every 10,000 population you had in 1924, 35.9 km. of railways while we had only 5.2 km., etc. Your economic achievements have served to determine our goal and the pace of development expected for the coming years.

According to the general plan industrial production in fifteen years is to increase sixteen times, production of the heavy industries, twenty times, and production of the light industries, twelve times. It is planned to increase the fixed capital of our industry to 78,000,000,000 rubles (roughly $38,000,000,000) which is twelve times the present capital. Productivity of labor is scheduled to increase eight times and real wages, four times. The standard of living of the Soviet worker is to reach the American level. Industry is to accumulate in the fifteen years a total of 145,000,000,000 rubles. Agriculture is to be totally transformed. Instead of the 25,000,000 very small farms, which are characteristic of the present type of our agriculture, it is expected that large-scale farming of the type of the Campbell farm in Montana will become an important factor.

Is this a dream, a pipe dream? One must not be too optimistic, but there are no reasons for pessimism. Our economic achievements of the past years point to the tremendous potentialities of my country. The presence of these potentialities explains the fact that between the daring plans prepared in Russia and the actual economic development up to now there has been no great discrepancy. Our past experience sustains us in looking expectantly towards the future. Both planning and the carrying out of plans lie within human powers. And where there is a will, there is a way.

ROUND TABLE CONFERENCES

INTERNATIONAL DIFFERENCES IN THE LABOR MOVEMENT

LEO WOLMAN, *Chairman*

SELIG PERLMAN.—Three dominant factors are emerging from the seeming medley of contradictory turns and events in recent labor history. The first factor is the demonstrated capacity, as in Germany, Austria, and Hungary, or else incapacity, as in Russia, of the capitalist group to survive as a ruling group and to withstand revolutionary attack when the protective hand of government has been withdrawn. In this sense capitalism is not only, nor even primarily, a material or governmental arrangement whereby one class, the capitalist class, owns the means of production, exchange, and distribution, while the other class, labor, is employed for wages. Capitalism is rather a social organization presided over by a class with an "effective will to power," implying the ability to defend its power against all comers—to defend it, not necessarily by physical force, since such force, however important at a crisis, might crumble after all—but to defend it, as it has done in Germany, through having convinced the other classes that they alone, the capitalists, know how to operate the complex economic apparatus of modern society upon which the material welfare of all depends.

The second factor which stands out clearly in the world-wide social situation is the rôle of the so-called intellectual, the intelligentsia, in the labor movement and in society at large. It was from the intellectual that the anti-capitalist influences in modern society emanated. It was he who impressed upon the labor movement tenets characteristic of his own mentality; namely, the nationalization or socialization of industry, and the paramount significance of political action, whether constitutional or unconstitutional, on behalf of the "new social order." He, too, has been busily indoctrinating the middle classes with the same views, thus helping to undermine an important prop of capitalism and to some extent even the spirit of resistance of the capitalists themselves.

The third and the most vital factor in the labor situation is the trade union movement. Trade unionism, which is essentially pragmatic, struggles constantly, not only against the employers for an enlarged opportunity measured in income, security, and liberty in the shop and industry, but struggles also, whether consciously or unconsciously, actively or merely passively, against the intellectual who would frame its programs and shape its policies. The trade unionist, unlike the intellectual, seldom underestimates capitalism's resistance power, nor does he overestimate labor's hankering to manage industry without the employer. In this struggle by "organic" labor against dominance by the intellectuals, we perceive a clash of an ideology which holds the concrete workingmen in the center of its

vision with a rival ideology which envisages labor merely as an "abstract mass in the grip of an abstract force."

Labor's own home-grown ideology is disclosed only through a study of the working rules of labor's own institutions. The trade unions are the institutions of labor today, but much can be learned also from labor's institutions in the past, notably the gilds.

It is the contention of this paper that manual groups, whether peasants in Russia, modern wage-earners, or medieval master workmen, have had their economic attitudes basically determined by a consciousness of scarcity of opportunity, which is characteristic of these groups, and stands out in contrast with the business men's "abundance consciousness," or consciousness of unlimited opportunity.

The scarcity consciousness of the manualist is a product of two main causes, one lying in himself and the other outside. The typical manualist is aware of his lack of native capacity for availing himself of economic opportunities as they lie amidst the complex and ever shifting situations of modern business. He knows himself neither for a born taker of risks nor for the possessor of a sufficiently agile mind ever to feel at home in the midst of the uncertain game of competitive business. Added to this is his conviction that for him the world has been rendered one of scarcity by an institutional order of things, which purposely reserved the best opportunities for landlords, capitalists, and other privileged groups. It may also be, of course, that the manual worker will ascribe such scarcity to natural rather than to institutional causes, say, to a shortage of land brought on by increase of population, or, like medieval merchants and master workmen, to the small number of customers and the meagre purchasing power of these. At all events, whether he thought the cause of the apparent limitations to be institutional or natural, a scarcity consciousness has always been typical of the manual worker.

The economic pessimism of the manual group is at the bottom of its characteristic manner of adjusting the relation of the individual to the whole group. It prompts also the attitude of exclusion which manual groups assume towards those regarded as outsiders. The manualist's psychology can best be brought out by contrast with that of the fully developed business man. Basically the business man is an economic individualist, a competitor par excellence. If opportunity is plentiful, if the enterprising person can create his own opportunity, what sane object can there be in collectively controlling the extent of the individual's appropriation of opportunity, or in drastically excluding those from other localities? Nor will this type of individual submit to group control, for he is confident of his ability to make good bargains for himself. If, on the contrary, opportunity is believed to be limited, as in the experience of the manual worker, it then becomes the duty of the group to prevent the individual from appropriating more than his rightful share, while at the same time protecting him against oppressive bargains. *The group then asserts its collective ownership over the whole amount of opportunity, but not of the industry or of the business,* and, having determined who are entitled to claim a share in that opportunity,

undertakes to parcel it out fairly, directly or indirectly, among its recognized members, permitting them to avail themselves of such opportunities, job, or market, only on the basis of a common rule. Free competition becomes a sin against one's fellows, anti-social, like a self-indulgent consumption of the stores of a beleaguered city, and obviously detrimental to the individual as well. A collective disposal of opportunity, including the power to keep out undesirables, and a common rule in making bargains are as natural to the manual group as laissez faire is to the business man.

Thus scarcity groups regularly endeavor to own, as groups, the limited opportunities at their disposal. In fact no issue relating to the conditions upon which they will permit an individual member to connect with an opportunity can escape becoming strongly tinged by this fundamental aspiration to own all the opportunities extant. It would be erroneous to try to account for an industrial struggle solely by the specific demands which are its proximate causes—wages, hours, freedom from discriminatory discharge, etc.—while leaving out this group hunger for controlling the job opportunities to the point of ownership. Therefore, the phenomenon of the strike is never ruled by the cold calculations of the participants, but behind each strike there always lurks the struggle for the control of the jobs. While, for purposes of analysis, it is useful to separate the several expectancies of the worker—wages, hours, shop freedom, etc.—these alone can never account for the real pathos displayed in industrial struggles.

In marked contrast to the actual behavior of "organic" labor groups, peasant communities, gilds, and trade unions, stand the several programs for labor action mapped out by the intellectuals. This contrast is, in the last analysis, a product of two opposite ways of looking at labor. "Organic" groups, notwithstanding that they rigorously enforce upon their individual members collectively framed rules for the "occupancy and tenure of economic opportunity," yet at each turn keep in sight the concrete individual with his very tangible individual interests and aspirations. But it has always been the main characteristic of the intellectual to think of labor as an abstract "mass" in the grip of an abstract "force."

While the concept of labor as a "mass" in the grip of a "force" is the common basis of all intellectualist theories of the labor movement, intellectuals fall into three distinct groupings, depending on what they take the nature of that "force" to be. The Marxian, who is a "determinist-revolutionary," pictures it as the ever growing force of material production, embodied in the tools of production and in technological methods. This "force," in seeking to break through the capitalist strait-jacket which encases it and impedes its further growth, is inevitably hurling the labor "mass" against the political and legal régime established and defended by the capitalist class. Secondly, we have the ethical intellectual to whom the "force" that grips the labor "mass" is the force of labor's own awakened ethical perception. This "ethical" force causes labor to strive for the fullest ethical self-realization, which in turn is conditional upon labor's escape from the degradation of "wagery" into "freedom." And freedom is found either in the self-governing workshop of the Christian Socialist, in

the labor commune of the Anarchist, or in the national gild of the Gild Socialist. Finally, there is the efficiency intellectual with his vision of society advancing from a state of disorganization to one of order, meaning a progressive elimination of waste and the abolition of destitution. This type of intellectual, who is best exemplified by the Fabians, sees labor as a "mass" propelled by the force of its awakened burning interest in a planned economic order yielding a maximum technical and social efficiency.

The Russian revolution was the handiwork of the intellectual of the determinist-revolutionary type, who—favored by a historically conditioned passivity of the ruling classes, a peasantry foreign to private property in land, and a factory population prevented by law from acquiring a trade union experience and mentality — had a carte blanche. In Germany, on the contrary, the trade unions had emancipated themselves from the tutelage of the revolutionary intellectual fully a decade before the revolution and thus labor's conduct in the critical years was directed by the trade union, not the intellectual, mentality; namely, the control of employment opportunities rather than socialization. In England one observes after the General Strike a swing toward the trade union point of view, as shown in the Turner-Melchett negotiations. And in America, the intellectual is wholly without influence in the American Federation of Labor; while in the new unionism, in the men's clothing industry, one finds essentially the job consciousness of the old unionism rationalized, modernized, and with a flexible method of procedure.

Carter Goodrich.—My task is easier than Mr. Perlman's. I am concerned with two countries only—Australia and the United States—and with the contrast between their labor movements. Yet I should like to treat them in a way that would contribute to that re-examination of the theories of world-wide labor development that is being stimulated by his excellent work. The cases of these two countries appear to make great difficulty for two of the most familiar theories in the field. America—with the very extremes of mass production side by side with the very minimum of socialist feeling—has long been recognized as an embarrassing exception to the doctrine of *socialist uniformity,* either in its original Marxian form or in Sombart's restatement. To explain this discrepancy, most of us have resorted to the theory that new countries with their boundless opportunities may expect a high degree of immunity from unionism and socialist agitation. Yet Australia—where the world's first labor government was put into power in a land even newer than our own—seems no less flatly to contradict this doctrine of new country immunity. Does the latest theory in the field enable us to straighten out these difficulties? Certainly it offers useful formulae for the explanation of differences, in "the resistance power of capitalism" and in the antithesis of "abundance" and "scarcity." But what of its core of uniformity, its doctrine that "organic labor" is everywhere concerned first and foremost with rules controlling the job and not seriously with politics and socialism except where it has been led astray by the intellectuals who the world over share a distaste for prosaic shop matters? Are intellectuals quite as uniform as this? Or are workers? On the first

question, it might be in order to cite the cases of the Chairman and the first speaker, or to recall Mr. Dooley's observation that "Th' Mettyphisical union is divided into manny camps." On the second, the vigor of Australian party-building may suggest a similar division within "organic labor."

First, however, to the facts of the contrast. In spite of their many points of likeness—their newness, their prosperity and high wages, their British origins and English speech—Australia and the United States seem to stand almost at opposite poles in the organization of labor. (The speaker pointed out that Australia's 850,000 unionists represented four times as high a degree of unionization as America's four million; that in Australia the Labor Party fought on even terms with its combined opponents; that within the Australian movement the Party and not the Unions was the dominant wing, and that the policy of the unions was conditioned by their acceptance of the principle of compulsory arbitration which American unionists oppose. He indicated that, although Australian workers strike somewhat more often than Americans, American unionists strike more than twice as often as their Australian comrades. He showed also that Australian labor professes a complete socialist objective; and that, although its actual policy is marked by great caution, a substantial difference remains by contrast with the anti-socialist American unions.) Why, then, should two new countries have produced such divergent labor movements and given them such different places in the national life? Confident answers cannot be given, but a brief review of possible explanations may serve as something of a test for the theories we have come together to discuss.

One important ground of difference—that in immigration—is too obvious to need extended comment. Australia received almost no net immigration during the first twenty years of the Labor Party's life, and the differences in "national origins" have been even more conspicuous. Australia is "more British than Britain"; its labor organizers know no such problems as those of heterogeneous America. Many Australians would add the claim that the significant things were the particular people who came and the ideas that they brought. Australia, they say, went labor easily because it was so largely settled by rebels and democrats. So, however, was America, and the point is clearly exaggerated. Yet the major fact remains that the rebels who set our tradition came almost entirely from pre-industrial countries while those who went out to Australia left an England in which the evils of capitalism had already aroused protest. To admit the significance of imported ideas, however, is not to admit any greater influence of intellectuals in the Australian case than in the American. William Lane, to be sure, had much to do with the establishment of "mateship" between skilled and unskilled and some part in founding the Party, but he soon abandoned it to lead a Communist expedition to Paraguay. He has had no important successors, and there is no trace of the influence of "researchers." Even the Party's middle class adherents are as much suspected by Australian unionists as Mr. Perlman would have them, but oddly enough not for undue radicalism but for the very opposite. Another element in Mr. Perlman's theory, however, serves as a more useful part of the Australian explanation.

Differences in the "resistance power of capitalism," due to the difficulties of combined action by scattered Australian pastoralists, the failure of Australian employers to copy "welfare capitalism," and the lack of strongly entrenched political parties, have certainly left fewer obstacles in the path of Australian labor.

But why should the consciousness of scarcity have arisen in the abundance of a new and frontier country? The answer appears to be that it was not abundance for the ordinary independent individual, and that in certain significant respects Australia has not been much of a frontier country after all. A larger proportion of its people have been wage-earners and a much larger proportion city-dwellers than with us. But why should this be true in a country so sparsely settled? Because, said Professor Commons, "the land was locked up in large holdings. The laborers have been forced to fight the battles of organization in the cities and on the ranches rather than escape as individuals to lands that are free." "Locked up" is perhaps not quite the phrase. In the early days the land policy *did* favor the large settler more than our own; but in recent decades Australia has tried harder than we ever needed to to plant a "sturdy yeomanry" upon the land, and with such small success as to suggest that geographical differences have all along been the major factors. Dry Australia has seemed best fitted for large-scale wool-raising; America for small-scale wheat and corn. In any case the significant difference remains, between an exultant "westward movement" in the one case and an unsatisfied land hunger in the other. If America owes its individualism largely to its small man's frontier, not a little of Australian collectivism may be attributed to the fact that its frontier encouraged the large man instead. The suggestion, moreover, receives support from recent changes in New Zealand where the shift from large-scale wool-growing to democratic small-scale dairying appears to have turned a labor country not unlike Australia into a conservative country not entirely unlike our own. A sound explanation of labor differences must, it seems, be based on differences in the lands themselves as well as in the people who came to them or the ideas with which they came.

But how far does this analysis bear out the theories with which we began? It gives no support to the oldest, that of orthodox Marxian revolution; neither country shows any prospects of sudden overturn. The latest of the theories, however, must find difficulty in explaining the Australian Labor Party. It is too earthy and vigorous for the handiwork of intellectuals, and the case suggests that under favorable conditions party action may appear as natural a method for labor as the most thoroughly "home-grown" tactics of any typographical local. The Australian experience, moreover, should bring sharpest warning to those who take comfort in the doctrine of new country immunity. Prosperity and newness alone do not guarantee contented individualism. The United States still stands as the exception even to the more moderate doctrine of socialist uniformity. But if it is free land and free immigration that have so largely made us so in the past, perhaps now, with these things gone, we too may be expected to take the Australian road. Indeed, it may be only the somewhat fragile devices of

"welfare capitalism" that are keeping us from tardy fulfillment of Sombart's prophecy. Yet it is not Sombart's theory but Perlman's that seems to be confirmed by the fact that Australian workers are less concerned with projects of socialization than with the arbitration awards that establish *their* shop rules. The Australian case might well be added to his observations of recent tendencies in other countries to illustrate a curious blunting of the edges of socialist idealism as professedly socialist movements grow in power.

WARREN B. CATLIN.—With regard to the Australian movement described by Dr. Goodrich, I should suggest that, owing largely to geographical environment, the penchant for political activity and emphasis upon the state as the source from which all blessings flow is by no means confined to the wage-earners of the country but that it has existed almost from the beginning among all classes. It may also be questioned whether the Labor Party, in spite of its name, is purely a branch of the labor movement since it undoubtedly contains other elements.

Doubtless the international viewpoint comes more easily to our foreign-born scholars, like Professor Perlman, than to those of us who have primarily an American background. If, however, I were to make any general criticism of his recent book and of his paper, it would be that, in spite of the heavy discount which he places upon the influence of intellectuals, he still implies that the imitation of foreign models and the leadership of foreign immigrants have been important factors in shaping the labor movement and labor policies of a particular country—the United States, for example. It is a case, no doubt, of the old controversy among our anthropological friends as between the theory of "parallelism" and that of "diffusion"—whether forms of culture and institutions have developed more or less independently and spontaneously under like circumstances and conditions in different countries, or whether they have originated in certain centers and have been spread abroad by communication, missionary effort, and imitation. Whatever may be true as to other culture traits, I think many of us incline to the theory of parallelism as an explanation of both the similarities and the differences in the labor movements of different countries. Labor organization in any country has been and must be largely indigenous, the outcome of a like response to stimuli, and not something imported or foisted upon a helpless and unsuspecting working-class by foreign leaders. That accounts for the transient influence and the short tenure of the intellectuals which Dr. Perlman has so fully exposed. The real leaders of the labor movement, with the possible exception of the political or legislative phase, must come from the ranks of labor itself. And any radical ideas which would-be leaders may have contracted abroad must be modified, adapted, and acclimated to the American environment before they can expect a hospitable reception or can secure any permanent hold. That is illustrated, as Dr. Perlman shows, in the life-history of Samuel Gompers and of his associate among the cigar makers, Adolph Strasser; and the cooling effect of American individualism, self-reliance, and optimism has likewise been noted in the moderate and conciliatory tone assumed by some of our recent British labor visitors. Indeed, the tardiness of the labor movement

in the United States, the almost complete domination exercised by the business type of union, and the absence here of any effective political organization, are but the natural and inevitable result of our relative labor shortage and our more fortunate economic conditions. This, in turn, is borne out by the comparatively slight differences in the hours of labor and in wages as between organized or regulated trades and those which are unorganized or without legislative restrictions.

The strong probability is that, because it is the most spectacular phase, we are disposed to overestimate the real importance which labor attaches to politics in Great Britain. The long struggle for the suffrage over there served to give this emphasis; and it has been repeatedly promoted and perpetuated by the bungling and oppressive tactics of British ministries and courts toward unionism, of which the act of 1927 is but the latest instance. The British movement, however, is still founded primarily upon trade unionism and a large proportion of its political activity has been undertaken in behalf of unionism.

We can agree with Dr. Perlman that the most hopeful trend observable in the labor movements of the principal countries is a growing subordination of revolutionary aspirations to the needs of the immediate present, not so much a "new unionism" as the rise of a new spirit and attitude among existing unions, more willing to co-operate with management in a business-like effort to rehabilitate industry and to make it more efficient, so long as labor is guaranteed a fair deal and a share in the benefits. German unions have evidently taken this constructive position both directly and through their control of the works councils. It is illustrated in the United States in the men's clothing industry, in the B. and O. shops, and in the new official wage policy of the A. F. of L. In Great Britain it is manifested in the development and increasing authority of the General Council of the Trades Union Congress; in the rejuvenation of the trades councils making them industrial bodies instead of mere branches of the Labor Party; in the presidential address of George Hicks at the Edinburgh Congress and the pronouncements of Walter Citrine and other spokesmen of the unions; and especially in the interim report of the Turner-Mond conferences in favor of "rationalization" or scientific management in industry. And nowhere is such an attitude on the part of all groups and interests more sorely needed to restore industry after a long period of nepotism and sleepy management, to regain lost markets, and to remedy unemployment than it is in Great Britain today.

In the course of an active period of extemporaneous discussion, Mr. Louis Lorwin argued that Mr. Perlman had not admitted a sufficient variety of types of intellectuals. There were, for example, those who wished to make over the labor movement in their own image, those who wished to merge themselves completely in it, and those who wished merely to co-operate with it. Intellectuals had hardly emerged as a group on the American scene, and more time was needed to judge of their possible influence. As for uniformity, there had never been a time when the labor movement of the world had not shown a great diversity of types. Latin syndicalism had

always been an exception to socialist uniformity. Moreover, rival types co-existed even in the same countries. The comparative study of trade union institutions, however, was of great value, and he commended those of Latin America to the attention of students of new country movements.

Mr. B. M. Squires argued briefly that the very successes of the "new unionism," of which Mr. Perlman so strongly approved, were due to its acceptance of intellectual leadership and of an intellectual attitude. The Chairman called upon Mr. Samuel Levin, manager of the Chicago Joint Board of the Amalgamated Clothing Workers, to speak as a representative of "the new unionism." Mr. Levin argued that the leaders of progressive unions should be students of industry, and attributed the success of his organization in part to its clear realization that it was not fertile to import the tactics of European labor movements into the American situation. Outsiders, however, must not suppose that capital was willing to accept any sort of unionism, new or old, without a struggle. The Chairman suggested that the leadership of the American Federation of Labor was not devoid of intellectualism, at least as evidenced by the recent report of its Executive, and inquired why none of the speakers had dealt with the causes of the decline of such important American unions as the iron moulders and the mine workers. Miss Mary Van Kleeck asked why so little reference had been made to the influence of technical change and suggested that a study of a single industry such as coal mining in two or more countries, giving attention to processes, markets, overdevelopment, etc., might be a safer guide to generalization than studies of labor movements taken by countries.

Messrs. Goodrich and Perlman replied briefly at the close of the discussion. The former denied that the "relative scarcity" of labor in new countries would account for the lack of unionism. Scarcity made it no accident that workers in a new country should be well off, but apparently other factors determined whether they should be individualist or collectivist. In conclusion, he attempted to point the discussion toward the prospects of American unionism in the future. Mr. Perlman denied that labor party action, under conditions where the "political set-up" was as favorable as in Australia, was any exception to his theories; indeed, the Australian case confirmed them since the Party strove there for the attainment of the same type of ends as "organic labor" elsewhere. He argued that his category of "controlled intellectuals" was quite adequate to meet the objections raised by various critics, and contrasted this type with those intellectuals who habitually "underestimate the resistance power of capitalism." The discussion closed on the unsettled question of the significance of "welfare capitalism" as a check to unionism.

TARIFF-MAKING IN THE UNITED STATES

LYNN RAMSAY EDMINSTER, *Chairman*

My preliminary remarks will deal with the background of the problem of tariff-making. Unless all signs fail we are confronted with the prospect of an early and far-reaching legislative revision of tariff rates and with the possibility of an overhauling of our mechanics of tariff-making. It would manifestly be appropriate at this time, therefore, if only it were feasible, to take stock of the whole tariff situation; to open up for discussion not merely the mechanics of tariff-making but also the much more vital question of tariff policy. But a discussion of policy could scarcely get us anywhere in the time at our disposal. And if it did get anywhere there is not the least reason to suppose from the recent party pronouncements on the tariff that it would get far beyond the confines of this meeting. For quite regardless of the teachings of economic science and of the plain implications of our post-war international economic position, it is only too clear that protectionism is gaining rather than losing ground in the United States.

But if protectionism is to be the dominant policy, why bother about the mechanics of tariff-making? If one is opposed to protectionism, would it not be better for him to trust to the mistakes of his opponents for an occasional unwitting concession to his point of view, or else hope that the very extremes to which they may go will lead to a favorable reaction? On the other hand, if one favors protectionism, why should he assume that expertness is required in applying the protective principles? Why not simply make certain that the duties shall be high enough to keep out all imports that are even remotely competitive with domestic products, and just let it got at that?

If the only alternatives were free trade and exclusion of all competitive imports, then obviously there would be no need for tariff experts. But although public opinion in the United States has gone far in support of the protective principle, it does not go so far as to insist upon elimination of all foreign competition from the domestic market. Even highly competitive products such as wool and sugar, though they are subjected to high duties, are not excluded from the country and in fact do enter in great quantity. Yet other products equally competitive, such as cattle hides and newsprint paper, are permitted to enter the country in large quantity without payment of any duty at all. It is true that in virtually every case where this latter occurs it is owing, not to any solicitude for the consumer, but rather to a division of tariff interest among producers themselves or others equally influential. But whatever the reason, it remains a fact that the protective policy is not applied uniformly and with equal rigor to all domestic industries.

It is precisely because the country is not willing to go the whole way in the direction either of free trade or of exclusion of competitive imports that there is a special role for the tariff expert. For just the moment that

Congress starts to draw the line between those two extremes of policy, it must begin deciding, in respect to each industry, whether protection shall be applied at all to its products and if so at what point. True, Congress may do this without any serious attempt to check the accuracy of the ex parte testimony laid before it by the interested parties, and with no expert aid in forecasting the results of its action. That was the old way. Volumes of hearings that confused more than they enlightened; a protracted period of log-rolling; and then a tariff act; a haphazard statute constructed with little regard to consistency in the application of a policy and shot through with inequalities and maladjustments in the interrelation of its various parts.

It was in order to get away from just such crudities in the making of the tariff that a tariff commission was created. It is now twelve years since the establishment of the Commission; and it is six years since the change in its functions by which it ceased to be a purely fact-finding body and under the so-called flexible provision of the present law acquired, subject to final action by the President, limited rate-making powers. Enough evidence ought to be available, accordingly, to enable thoughtful persons to arrive at an informed judgment as to the value of the service of the Commission and as to ways and means of making it a more useful organ of government.

That the Commission has not exercised anything like the influence in the making of the tariff that its friends originally hoped for is now generally conceded. It is in regard to the causes of failure and the prescription of the remedy that opinions differ. There is, to begin with, a considerable body of opinion that has always been hostile to the whole idea of a tariff commission. This includes not merely those who, either from ignorance or from selfish interest, oppose any sort of reform at all in tariff-making, but also such respectable organs as, for example, the New York *Journal of Commerce*. Those who so believe are naturally alert to seize upon each failure of the Commission as evidence that there is nothing in the idea and unfortunately they have been able to find not a little grist for their mill.

But even amongst those who are not hostile to the idea of a commission there is wide difference of opinion as to the nature of the functions that the Commission should discharge.

First, there is the notion of a commission with no more authority than was possessed by the original body from 1916 to 1922—a purely fact-finding agency with no power even to recommend rates of duty, much less to fix them.

Second, there is the idea of a commission, still purely fact-finding, but with power to present its findings to Congress in such a way that their meaning is unmistakably clear. Such is the type of commission advocated by one of its former chairmen, Thomas Walker Page, in his book on *Making the Tariff in the United States*, published by the Institute of Economics. In order to make its findings clear to Congress, Dr. Page would have the Commission: First, designate as nearly as it is possible to do so, the rate of duty that will "maintain equality of opportunity for foreign and domestic industries"; second, and much more important, explain in such manner

that Congress and the public may follow the reasoning, the grounds for believing that the rate designated will maintain equality; and finally, point out the effects on all interested parties of imposing duties higher or lower than such a rate. It may then be left to Congress, in the light of all the facts adduced, to fix the duty and to take full responsibility for the result.

A step further in the direction of administrative rate-fixing is the proposal that the Tariff Commission shall be given power to adjust rates of duty in accordance with a general rule laid down by Congress, such changes as it makes becoming law unless disapproved by either branch of Congress within a period sufficient to afford opportunity to pass upon them. Congress would thus still remain the ultimate authority with respect to each change of rate; but the presumption is that most of the changes made by the Commission would stand. Such is in substance the plan that has been suggested by former Tariff Commissioner David J. Lewis.

Still further in the direction of administrative rate-making is the so-called "flexible provision" of the existing law, authorizing the President, on the basis of findings by the Tariff Commission, and subject to certain further limitations, to adjust the existing duties in such manner as to equalize the difference in foreign and domestic costs of production. Having laid down a general principle upon which rates are to be adjusted, Congress leaves the specific application of the principle wholly to administrative authority.

Even greater would be the grant of administrative authority conferred by the plan for a separate Tariff Adjustment Board sponsored in 1922 by the United States Chamber of Commerce. This plan calls for the maintenance of a fact-finding Tariff Commission, but it would set up in addition a so-called Tariff Adjustment Board, with full power to fix the duties which would carry out the general policy determined by Congress. Within broad maximum and minimum limits laid down by Congress, the Board would adjust rates with virtually a free hand according as it felt that the facts presented to it called for changes in them. Nominally, there would be certain limitations upon the power of the Board. But those actually suggested by the Chamber prove to be scarcely limitations at all.

Finally, there is the tentative proposal of the National Association of Manufacturers, outlined by the President of the Association at a recent meeting of its representatives, which would give to the Tariff Commission full power, without the necessity of subsequent approval by either the President or Congress, to adjust rates of duty in accordance with whatever general principle Congress, under the Constitution, may prescribe for its guidance. Details of the plan remain to be worked out; but the preliminary public announcement makes it sufficiently clear that the object is to make the adjustment of duties much more responsive to what the Association regards as the immediate needs of industry than it has under the existing law or can be made under purely statutory regulation by Congress. What the Association seems to have in mind is that the Commission shall have full power, whenever a domestic industry complains that imports are increasing or else fears that they may increase, to remedy the situation without awaiting approval of its action by the President or Congress and

with the utmost dispatch consistent with a superficial appearance of judicial decorum.

Students of this question will recall the severe criticism by leading economists and former members of the Tariff Commission, of the flexible provision and its administration, at the annual meeting of the American Economic Association in 1925. A similar stand was taken by the Select Committee of the Senate set up in 1925 to inquire into the Commission's affairs.

Meanwhile we have had a national election. During the campaign the record of the Commission came in for severe castigation by the Democrats, both in their platform and in the speeches of their candidate. But in the Republican platform it received no mention at all, and from the Republican candidate it received but scanty attention. Those who are wondering what the Republicans are going to do must content themselves for the present with the brief campaign statement of Mr. Hoover that the Tariff Commission can be made a valuable arm of the Government, but that the American people will never consent to delegating authority over the tariff to any commission, whether non-partisan or bi-partisan. Does Mr. Hoover mean merely that the Commission should have nothing to say about the determination of tariff policy? Or does he mean to go further and say that the Commission should not have any rate-making powers even after the general tariff policy on which it is to proceed has been determined by the voters? And if it is to have rate-making powers, how can these be divorced, in practice, from all determination of policy? Precisely what his statement means in the way of reorganization of the Commission's powers and functions, nobody can tell; but certainly it appears to foreshadow a distinct change in the Commission's status.

In my own opinion the foremost danger in the whole situation is that in consequence of the loss of prestige and public confidence suffered by the Commission in recent years, all hope of reform in the old log-rolling method of tariff-making may be sacrificed. If Mr. Hoover believes the Commission can be made a valuable arm of the Government, it is unlikely that it will be abolished. But there is still a large and powerful group that would like to see it abolished. And there is still another group which is willing to tolerate its existence only so long as it counts for naught in tariff-making except to serve as a buffer against public resentment when unpopular duties are imposed; as a means of getting duties increased without the delay involved in new legislation; and as an agency to which Congressmen can "pass the buck" when powerful constituents seeking tariff favors become too importunate. Those who have hoped and worked for something better must deplore either abolition of the Commission or employment of it merely as a vehicle for political and partisan convenience. Nor can they look with much greater favor upon the possible absorption of the Commission's functions into a Federal Department and, in consequence, the loss of all opportunity for political independence in their discharge.

In planning this round table, arrangements have been made for a discussion of the technical phases of tariff research, followed by a consideration

of agencies and means for making such research bear fruit in the process of tariff-making.

Mr. Wright sent a paper that dealt with the topic of "Tariff Facts and Tariff Theories," which is briefly summarized as follows:

It is a curious paradox that whereas economic theory shows that free trade is for the economic advantage of every nation, and whereas nations in their dealings with one another unquestionably seek each their own economic advantage, nevertheless practically all nations adopt protection. This apparent contradiction between theory and practice should give us pause; but we shall not stop to discuss it further.

The danger of applying broad generalizations of theory to specific cases without limitation or qualification may, however, be stressed. One of these generalizations is that when a country is on a substantial export basis with respect to a given commodity a duty can have no effect. In applying this principle allowance must be made for time, space, and quality considerations. (1) Data are collected as covering a certain period of time—week, month, or year. Though, taking each interval of time as a whole, the country may be on a substantial export basis, within that interval there may be periods when the situation is reversed, and at such times the duty may be of benefit to producers. (2) The United States is a large country and freight charges play an important part. In some parts of the country a duty on a given commodity may be effective even though we are exporting from other ports. (3) Articles subject to duty under the same name may differ in quality. Hence, imports may be received on a quality basis even though we are exporting in large quantities articles of the same name but of different quality.

Another generalization is that when a country is on a substantial import basis with respect to a given commodity and a duty is imposed, the effect of the duty, if imports continue after its imposition, is to raise the price of that commodity by the amount of the duty. Some of the limitations and qualifications given with respect to export commodities apply in this case also. A country may import in some seasons of the year and export in others. A duty may have a distinct effect in the seasons of import and little or no effect in the seasons of export. The average effect for the year may be much less than the duty.

Whether imports or exports preponderate, allowance must always be made for previous contracts and for established trade connections.

Because of the considerations set forth actual trade data often show considerable discrepancies from what they should show if governed by the findings of prevailing theory. One of the most striking of these is in the case of butter. Monthly data were collected for a period of six years. During this period the duty varied from 2½ to 12 cents per pound. Sometimes the average monthly domestic price exceeded the average monthly foreign price by much more than the duty, sometimes by approximately the duty, sometimes by much less than the duty, and sometimes, over considerable periods of time, the foreign price actually exceeded the domestic. Yet

in all these six years there was not a month which did not show both imports and exports.

Finally, not even in theory is it correct to assume that a duty should raise the price of an imported commodity, even though imports continue after its imposition, by its full amount. The normal effect under such conditions is to raise the domestic and lower the foreign price, the difference between these prices when equilibrium is restored, being the amount of the duty. The relative amount of change is determined by eight factors, four domestic and four foreign; namely, domestic output, consumption, and elasticity of supply and demand and the corresponding foreign factors. Knowing these factors the normal effect of a duty may be computed by formula. The formula is

$$\triangle P = T_f \frac{1}{1 + \frac{e_d o_d - \eta_d c_d}{e_f o_f - \eta_f c_f}}$$

in which $\triangle P$ is the increase in domestic price; T, the duty; o, the output; c, consumption; e, elasticity of supply; η, elasticity of demand (always negative); and the subscripts d and f, respectively domestic and foreign.

Observation of the formula shows that any increase in one or more of the domestic factors relatively to the corresponding foreign factor tends to lessen the effect of the duty on the domestic price.

By another formula easily derived from the one given, it was shown that the less the imports and the greater the numerical value of all the eight factors the more quickly will the duty become prohibitory and hence the less will be its possible effect on the domestic price.

George P. Comer.—My remarks deal with information needed in tariff-making.

First, in regard to production and import statistics. Probably the most important matter here relates to the comparability of the two classes of articles, either in whole or in part, and the geographical distribution of production and imports. Things are rarely what they seem from statistical tabulations. Pig iron, for example, is not pig iron for purposes of tariff legislation. The great volume of domestic production is the product of the blast furnaces, which is transferred in a molten state to the steel plants for manufacture into steel and steel products. Much of the imported pig iron, on the other hand, is foundry iron used for special purposes. Other examples, such as wheat and cotton cloth, might be cited.

Moreover, the prices of domestic and imported products must always be taken into consideration in studying the relation of production and imports. The significance of the upward or downward tendency of imports is partly determined by the obverse downward or upward tendencies in prices. A different competitive condition exists when rising domestic prices draw in from foreign countries heavy imports at the same time the domestic production is expanding, than when successively lower prices abroad enable the foreign producer to obtain a larger and larger share of the American market.

Again, there is the question of the use of prices of comparable articles for the purpose of establishing equalizing tariff duties. There are two extremes of view on this. One, ordinarily favored by the economist, is that prices of comparable articles merely reflect existing conditions in transportation and marketing costs, and any customs duties that may be in force; therefore no changes in duties are inherent in the comparison. The other is, that prices register or focus all the forces of competition, and that the difference between foreign and domestic prices under somewhat vaguely specified conditions, measures the difference in the competitive strength of the two industries. As usual, the truth probably lies somewhere between the two views. For comparable grades of standardized commodities having a world market, such as wheat, wool, copper, and cotton, it is largely true that prices in different markets reflect chiefly differences in transportation and marketing costs. On the other hand relatively few commodities out of the tens of thousands entering into international commerce have such close international price adjustments. There are usually peculiar advantages and disadvantages in production and marketing which affect the price of specialized products. Here, price comparisons may be quite significant.

Similarly, there is a difference of views as to the use of cost of production data. One view is that differences in costs of production, like competitive prices, merely reflect differences in strategic locations with respect to the principal markets. Thus when allowance is made for transportation and marketing charges, and existing tariff rates, there is no differential remaining from which tariff rates can be derived. Another is that cost differences are the true test of competitive conditions, and that they measure the extent of any equalizing duty required. Yet another, more extreme than either of the two mentioned, is that differences in costs of production cannot settle tariff problems from the point of view of national policy, because such differences have little bearing upon the question as to whether a given industry should or should not receive protection. This school of thought lays special emphasis upon the theory of comparative advantages among nations in their industrial developments. If it is granted that marginal costs are approximately equalized except for varying marketing and other conditions, it does not follow that average costs are equalized. It appears there is a possibility of change in tariff rates inherent in a comparison of average costs of production because of the varying extent to which producers' surpluses vary among the submarginal producers. In one country the bulk of the product may be produced at little below marginal costs, whereas in another country the bulk may be produced far below the margin as determined by market prices.

In most of the commodities covered by the tariff act there is probably no single marginal cost, because there is no world market price for them. Both costs and prices are based upon more or less local conditions, and cost differences are significant if averaged over a considerable period of time.

Again there is the matter of transportation costs. These, obviously, are just as significant for purposes of tariff legislation as are factory costs, since they affect just as much the capacity of the domestic to compete with

the imported article in a particular market. How far inland the zone of competition of the imported, with the domestic product, shall be permitted to extend rests, of course, with Congress, but to draw any line at all it must know the relative transportation costs.

In general the Commission has been much more successful in obtaining information in regard to production and transportation costs than it had reason to expect. Out of eighty-two investigations, cost data have been obtained from domestic producers in all cases, and from foreign producers in fifty-one instances. Resort has been had to other evidences of foreign costs, such as invoice prices, in twenty-eight cases, and the subject of foreign field work is still pending in three instances. Important articles for which foreign cost data were obtained, involving some thirteen different foreign countries, are: linseed oil, granite, pottery, vegetable oils, butter, cheese, sugar, glue, wheat, logs, halibut, potatoes, milk, and cream.

Although the Commission has been reasonably successful in obtaining foreign costs of production data, it does not follow that it would be practicable to obtain such costs with any reasonable expenditure of money for use in connection with a complete revision of the tariff act. Thousands of articles are enumerated in a tariff act, and for a general tariff revision a much shorter method of obtaining significant data than cost of production studies must be adopted. The most practical method, as previously indicated, is studies along the lines of production, imports, exports, and prices, supplemented by such cost of production data as are available.

Henry Chalmers.—Analysis of foreign experience in tariff-making discloses that there are three quite distinct functions with which administrative or executive tariff bodies may be charged. For convenience these may be termed "tariff-adjusting bodies," "tariff-making bodies," and "tariff-recommending bodies."

The first type is best illustrated by the experience of various European countries during the post-war years. It consisted of authority vested in a ministerial commission or administrative body for making prompt adjustments in the established duties on imports under changing conditions, in the effort to keep the existing scheme of trade control functioning at about its original purpose and effect. The second type of arrangement is most commonly found in Latin America. In many of these countries it has become the fixed practice for the tariff-making or -changing function to be vested in the president or one of his ministries. These administrative decrees become law upon the date set by the issuing official, without requiring approval of the national legislature. The third type is illustrated by the system growing up in the major British areas, and to some extent also on the Continent of Europe. Tariff boards or committees are authorized to investigate applications for new duties or changes in those existing, and to present recommendations; but they are without the power to put those changes into operation, final decision being left instead to the legislature, usually upon the recommendation of the cabinet. In no foreign country, to my knowledge, are the functions of a tariff investigating body limited to strictly fact-

finding, without its being required to make some recommendations as to the duties to which its findings of fact point.

From the viewpoint of suggestiveness for the United States, not all of these types of experience are, however, of equal value. The purely tariff-adjusting bodies seem to have proved quite satisfactory for their limited and temporary purposes, but, except as emergency devices, they afford no very useful precedent. Indeed, under stable conditions, there are very few cases of tariff adjustment that would not involve determination of policy, and thus constitute essentially tariff-making.

The practice of delegating almost absolute tariff authority to the executive or his appointees is not likely to prove feasible in a democracy of the Anglo-Saxon type. In a number of countries where the permanent tariff-making power has been thus delegated, complaint has been frequent that the exercise of that authority has tended to become arbitrary, subject to special influences, and to have subjected business to considerable uncertainty and instability.

In most of those countries where an independent investigating or advisory body has been vested with authority in connection with tariff-making, but has had its function distinctly limited to investigation and recommendation, the experience appears to be regarded as on the whole quite successful. Within less than a decade the tariff boards or committees, established in a number of the British areas, appear to have become the principal and almost indispensable agency for the drafting of tariff changes and related decisions on trade control measures. Analysis of the tariff-making mechanics in use in Great Britain and in two representative British Dominions—Canada and Australia—in recent years discloses certain characteristic features that are worth stressing.[1]

1. No tariff action without prior investigation by a tariff board or committee independent of the legislature. The tendency to subject all claims of applicants for tariff changes to examination by a specially constituted body of tariff investigators has been growing into almost a standard practice in all of these areas. The sifting of *ex parte* evidence affecting a great range and variety of products seems to be increasingly recognized as essentially a task for a body of experts, who are to be more or less removed from an atmosphere dominated by political considerations.

The boards or committees are required to present a brief, authoritative summary of their findings as to facts and interests involved, and are authorized to recommend the rates of duty they believe warranted. While such recommendations are subject to review by the prime minister or the entire cabinet, who may be authorized to put tariff changes into operation provisionally, they finally become permanent law only after legislative consideration and vote. Such delegation of authority as is involved in this type of tariff-making thus appears to be only a delegation in the preliminaries, with

[1] A detailed exposition and study of "Tariff-Making in Great Britain and the Dominions," by Dr. Chalmers, appears in the January 1929, issue of *The Annals of the American Academy of Political and Social Science.*

the final decision resting with the selected representatives of the people from the different parts and elements of the country.

2. Enunciation by the party in power of a general and consistent tariff policy as a guide for the tariff board. Such a declaration of general tariff policy is obviously necessary if the tariff investigating body is to be guided, in its recommendations, by the same criterion as is the administration. In the particular areas studied, that policy is enunciated by the prime minister or the minister of finance. But there is no sufficient reason why the same practice might not be followed in countries that do not have responsible cabinet government.

3. Provisions for tariff board personnel, criteria, and publicity that make for successful carrying out of the general policy. (a) The tariff boards or committees in these British areas are usually small bodies, made up of three to five members, for dispatch in operation and to avoid evenly-split recommendations. The members are usually selected to represent not so much political parties as the different tariff positions commonly associated with the industrial, commercial, or consuming elements of the population. (b) The boards are usually instructed to guide themselves by the general policy of the administration, although they are not bound by strict and rigid rules. (c) Prompt publication of findings and recommendations of the tariff investigating body is called for in two of these three countries.

4. Tariff revision beyond urgent minor changes usually a once-a-year matter. In Great Britain and Canada, all tariff changes are introduced in connection with the annual budget. In Australia, the reports of the Tariff Board are usually accumulated until the situation warrants a more or less comprehensive revision. In either case there is minimized the feature in connection with tariff-making that is most disturbing to business; namely, the instability that arises from the fear of tariff changes at any time or on commodities where changes may not have been expected.

5. Special consideration for consuming interests. In two of the three areas there is a distinct provision in the instructions to the tariff board or committee to give consideration to the possibly injurious effect of the duties upon consumers or upon industries using the given product.

6. Limitation of protection to efficient and appropriate industries. In at least two of these major British areas, the tariff investigating bodies are required to satisfy themselves, before recommending any increase of duty, that the industry concerned is carried on with reasonable efficiency. Consideration is also given to the question whether the industry concerned is appropriate to the conditions of the country and capable of healthy development.

7. Flexibility in tariff adjustments to changing or special conditions of industry. As an encouragement to young industries in Australia, appropriate duties have been written into the tariff act for their products, but deferred in application until such time as the tariff board is satisfied that the products in question are produced in Australia in reasonable quantities and of a satisfactory quality in the light of the requirements of the country.

An interesting device for effecting selective protection is the arrangement found in Canada and Australia, whereby administrative reduction or waiver of duty may be granted for the admission of particular shipments of machinery, equipment, or materials for use in production in case precisely similar goods are not obtainable within the country.

8. Authority for investigations upon the initiative of the tariff board, with the consequent development of broad views and programs. Granting a tariff advisory body the authority to institute investigations upon its own motion appears to have had the interesting result, in Australia, of encouraging the tariff board to undertake basic studies into the current conditions and problems of the industrial development of the country as affected by the working of the tariff and customs law. The practice of that board of considering applications for duty changes on specific articles in the light of the general status, limitations, and possibilities of the industry as a whole, is rather unique in the making of tariffs, yet obviously desirable.

Equally significant, from a positive viewpoint, is the analysis by the Australian Tariff Board of the causes of high costs of production and of high prices in that country, coupled as this is with a series of specific recommendations as to the possible line of attack, largely in the form of internal measures, on the problem of improving the efficiency and competitive ability of Australian industry.

Some of the foregoing features of tariff-making in the British areas doubtless have disadvantages, and some may not be entirely adaptable to the conditions found in other countries. By focusing attention upon particular features observed in the tariff-making methods of these areas, it is not necessarily intended to imply any endorsement of them as they stand. Nor is there any disposition to ignore the divergencies from the intended mode of operation that may have actually appeared in the practical working out of the tariff-making process in these countries. Nevertheless, to students of tariff problems in countries where the present mechanism is not regarded as entirely satisfactory, a careful analysis of the salient features observed in the experiences of these major British areas is clearly of suggestive value, at least as a basis for further study and practical consideration.

HARRY T. COLLINGS.—One of the greatest criticisms in past tariff-making centers around the phrase "taking the tariff out of politics." Tariff has always been a bone of contention in politics; for a hundred years it split the electorate into two great parties. If "taking the tariff out of politics" means removing it as an issue between the Republican and Democratic parties, it has already been taken out of politics, since both parties in the campaign of 1928 took essentially the same attitude toward it in their platforms. If "taking the tariff out of politics" means depriving Congress of its policy and rate-making power, then the tariff has not been taken out of politics and never will be; it never ought to be in a democracy.

Another criticism is that our tariff-making is not "scientific." If a scientific tariff is one made by scientists, by economic experts in this case, our tariff never has been and never will be scientific, for it will not be trusted entirely to scientists. If a scientific tariff is one based upon some such

principle as "equalizing the cost of production," as the Republicans express it, or "equalizing competition" as Democrats prefer to phrase it, then again the tariff can never be scientific. For there is no method of finding out the exact cost of production abroad; there is no such thing as a standard cost of production even at home; and differences in cost change so rapidly as to make a "scientific" tariff based on any such formula impossible of achievement.

A further deficiency in our past tariff-making is that the preparation of legislation has been too long drawn out. The committees of Congress worked nearly twenty months on the Tariff Act of 1922, after the Tariff Commission had gathered data for nearly six years. No such extended hearings are necessary. Such hearings should be transferred from the congressional committee to the Tariff Commission, and that body should have authority to sift out the essential material for the use of legislators. The Commission should also have the right to make minor adjustments of tariff rates after Congress has determined the general level. This would tend to diminish "log-rolling" and would weaken whatever argument there may be for the "flexible tariff provision."

A whole set of circumstances has changed our tariff-making until former methods and procedure have become things of the past. We must now look at our foreign commercial policies from new angles. Protection has heretofore meant protection to manufacturing only; henceforth it must include protection to agriculture whether or not this is logical. The home market is not now adequate to absorb our agricultural production and prices for farm products have been ruinously low. More efficient marketing or improved purchasing power abroad may be a more logical way to improve the lot of American farmers but they will demand protection and they are in a position to enforce their demand. Tariff-making in the past has always disposed summarily of another class, the consumers. But consumers are now troubled by the high cost of living in spite of high wages and they are organized to demand good reasons for the subsidizing of manufacturers through the payment of higher retail prices. Consumers' interests are no longer negligible, and "hearings" may soon include them as well as producers.

Moreover, in making the tariff we must begin to consider the indirect effects of the tariff upon American export industries. In this connection the shift in the character of our exports is highly significant. So long as they consisted chiefly of raw materials and foodstuffs which foreign nations had to import and could not buy to better advantage elsewhere, the foreign market was assured irrespective of our tariff policy. Now, however, our exports are more largely manufactured goods and they have to *win* new markets in competition with other sellers. Since we can now produce at least 15 per cent more than our domestic market of 125,000,000 people can absorb, we must have ever larger markets abroad or else curtail production. High protective rates, therefore, may shut out foreign goods effectively but the goods thus excluded may then be sent to the very markets we wish to win. This is food for thought in tariff-making. No longer may

tariff-makers overlook with impunity the importer, whose interest they jeopardize by rigid exclusion policies. If we must have larger markets for exports, we can expect to receive payment for these growing exports only from increasing imports.

Nor can we afford any longer to be indifferent to foreign criticism of our tariff wall. Retaliation from abroad may take more invidious forms than that of mere criticism. Cartels are a growing phenomenon in Europe. The international cartel in its post-war phase is looked upon as the chief means of readjusting the whole European economic structure, putting an end to competition, and even replacing tariffs by cartel agreements. This development has already startled American interests.

Neither can our position as the greatest creditor nation be ignored in future tariff-making. With $24,000,000,000 loaned abroad, the interest and principal of which can be paid only in goods or services, and with our foreign investments growing at nearly a billion a year, are our tariff makers now free and independent spirits whose only concern is a domestic one? However defensible our sanitary regulations against hoof and mouth disease may be, or our high rates against luxury imports (which come so largely from France), we are bound now to think of these policies in terms of their effects upon our debtors. In the future, our tariff-making must take into account as it never has before the international as distinguished from the purely domestic aspects of the subject.

HERBERT F. FRASER.—The work of a tariff commission should be limited to certain outstanding functions. It should not be burdened with a multitude of minor details. For example, it should not take over or duplicate the statistical work of the Department of Commerce, but should be able to make use of that information when requested. Some member of the commission should have the duty of keeping information as to the work of the Department, and should foster co-operation between it and the commission. The functions of the commission naturally fall into two broad groupings; the first, which are not likely to be controversial among economists, belong to the commission as a fact-finding body, and the second, on which there will be considerable difference of opinion, arise from the work of the commission as a body charged with the responsibility of recommending rates of duty to Congress.

The functions of the first group I should classify as follows: (a) The commission should be able to inform Congress of the extent to which foreign importations displace or supplement the use of goods of domestic production, and whether or not the raising of the duty would keep out such imports. (b) It should determine when an American industry is subject to unfair competition through the dumping of foreign goods in our markets, and whether that dumping is the result of a temporary or a permanent policy. (c) It should study the incidence of the duties and their effects upon prices, publishing annually an estimate of the total amount of money collected by the protected industries from the American people over what they would have had to pay under free trade. In addition to what the government col-

lects in the way of revenue this includes an estimate of what the protected industries collect in the way of higher prices.

(d) The effect of the limitation of imports upon the curtailment of exports should also be studied. We have always taxed luxuries at high rates of duty, and in so doing we have laid heavy duties upon French products distinguished for their artistic taste and excellent finish. The result is that France regards this as discrimination and has been unwilling to give us the full benefit of her own minimum rates. This is a situation calling for an expert report from the commission.

(e) It should be the business of the commission to investigate the economic position of our protected industries, and the likelihood of their becoming strong enough to get along without protection. It should investigate (1) the extent of our natural resources and their quality for the industry in question; (2) the labor supply, its quality and skill; (3) the dependence of other industries upon the supply of the protected commodity, and the effect of protection in hampering the second industry both at home and in the foreign field; (4) the methods, processes, and efficiency shown in the industry compared with similar industries in the country; and (5) finally the organization and control of the industry, and the extent to which competition is active or restricted. Does it limit supply and attempt to control prices? Does it dump its goods abroad at lower prices? So far as possible and practicable the commission should get similar information about competing industries in foreign countries.

(f) The commission should keep copies of the tariff laws of foreign countries, their commercial treaties and conventions, investigate the commercial policies, the administration of the tariff laws, and in general the practices of foreign countries. The commission should estimate the effects upon our trade of aids, bounties, preferences, and prohibitions of foreign nations. It should study foreign methods of tariff-making and the operation of commercial treaties, and recommend to Congress similar provisions designed to protect and advance our interests and to accommodate our policy to that of every other important commercial nation.

(g) Finally it should give technical advice to Congress about the terms, definition, phrasing of the law, the enumeration and classification of articles, the divisions, sections, schedules of an act, and in general with regard to the administrative features of the law.

The second group of functions has to do with the question, "How can the Commission influence actual rates of duties?" Section 315 of the existing tariff act declares that the difference between foreign and domestic costs of production are to be taken as the standard measures of duties, and they are to be made such as will equalize costs here and abroad. Professor Collings has already effectively criticised this formula.

Dr. Thomas Walker Page has suggested an alternative idea. The duty should be made such as will equalize competitive opportunity in our markets. You will see that this is not so precise as equalizing costs. As between prices there is a fairly wide margin within which equality of competitive opportunity may be said to exist, because other things beside costs affect

competition. Transportation facilities, prestige, business connections, especially banking and exchange facilities, marketing organization, etc., all affect competition. Having this in mind, Dr. Page suggests that the Commission name the rate of duty which will equalize opportunity. This rate is to be used only as a point of departure; it is not necessarily the rate to be adopted by Congress. The commission is also to give reasons for the adoption of a rate higher or lower than that which they designate, and also to estimate the effects that will follow from the adoption of such a rate. Congress will thus be put in a position to legislate in the light of information as to what results are likely to follow.

All things considered, there is much to be said for this proposal. I think that it is highly desirable that the commission should specify an exact rate of duty. If they do not do so their recommendation will be so vague and indefinite that it will receive scant attention by Congress or the country. In carrying out this most important function the commission must act upon some principle and at the present time competitive equality is likely to be accepted by our people as an eminently fair principle upon which to act. It is, of course, a protective principle, but the last election showed that this country is committed to protection, and will be for some time. Many of us think that the time has come for the United States to move in the direction of a low tariff policy, but we must face facts, and, therefore, we want a commission that will take a national view of the policy of protection, and recommend rates primarily with regard to the promotion of the national welfare, and not to please selfish interests. The principle of equalizing competitive opportunity is under the circumstances, in my judgment, the best that could be adopted.

ECONOMIC HISTORY

MAX S. HANDMAN, *Chairman*

The topic which is scheduled for discussion is that of the emergence of capitalism. In dealing with this subject, we are confronted by conditions that are common to many other similar questions. All of us in economic history have for a long time felt that we are wandering in an inextricable maze when we try to tread our way amidst the mountains of facts with which we have been provided by the scholars' assiduity. Unless we have the epicurean taste of the antiquarian for mere facts and details, we will sooner or later feel the need of something to unify or organize all this mass of material, if for no other reason but that of the needs of human understanding. Now, when one looks about for some organizing principle, he is confronted by two alternatives. One can consider the various groups of economic phenomena in a serial sequence. In such a case we have a history of banking, or taxation, or population and migrations, or forms of the business unit, etc. The most that we can expect from such an approach is a series of threads later to be used, by him who can, for the weaving of a more intellectually satisfying texture. The other alternative is to start with an "organism as a whole" which winds its way throughout the ages under the influence of various external and internal forces, changing its form until it has come to us in the shape in which we find it today. Such an organism in economics is found in capitalism, the organization, if not the organism, of modern economic life, with its grouping of population, its manipulation of money and monetary instruments, its impersonalization of economic relationships, its rationalization, its balance-sheet-attitude towards most forms of human activity, and its ruthless pursuit of accumulation of symbols of control over goods and services. The problem of the economic historian, therefore, becomes one of tracing the rise and growth of this economic organism, or the emergence of capitalism.

Useful as this concept of capitalism was in its early days, it seems now to have reached a critical period. When we knew little about the economic life of the past, the hypothesis of an evolutionary series, tending towards a consummation in capitalism or socialism, was of very great help in finding more facts and creating the discipline of economic history. Today we are in danger of being choked by our hypothesis; the scaffolding threatens to interfere with further construction. It has given rise to considerable confusion, particularly on the part of the historians, who have carried the concept of capitalism into the remotest times and places with an amount of conceptual indifference distressing, to say the least, to one looking for some clearness in the delimitation of economic forms. Capitalism has come to mean so much that it is doubtful whether it means anything. I have therefore been wondering whether the time has not come to discard the notion of capitalism altogether and follow the example of the other

sciences, that have ceased to speak of entities. We can perhaps speak with greater accuracy of forms of economic organization increasing in size, as size is capable of being stated in quantitative terms; increasing in complexity, which means a larger number of interrelated parts; spreading over certain geographical areas; appearing in certain new relations to other forms; and we can also speak of the variations in the rate of speed of change from one economic form to another and of the bringing in of continuously larger numbers of participants. Finally, we can estimate the manner in which at any given time and place, existing economic forms are affected by other forms of social organization; how they make certain values obsolete or are in turn made obsolete by the appearance of values in other fields of human activity or human valuation. In short, it is time to ask ourselves whether capitalism has not ceased to be an economic concept altogether, and can, therefore, continue to be a fit term for scientific purposes.

F. H. KNIGHT.—In addressing this group, the speaker must begin by disclaiming responsibility for his place on the program and admitting that he has no positive historical contribution to offer. It was the wish of the Chairman to have some remarks from an economic theorist who has made some attempt to use economic history for the illumination of general economic problems. Doubtless the main idea is to "stir up the animals." Two things which it seems possible to do are, first, a bit of fault-finding with the historians for what they give us, in contrast with what the theorist wants, and, second, some rankly amateur speculation on the subject of historical explanation. In the present state of the historical mind regarding generalizations, the second may well prove even more effectively irritating than the first to the historians following on the program.

First, then, the theorist is moved to protest that the historians would write history differently if they had a better grasp of "economic fundamentals." Reading their work, we continually get the impression that the writers are more or less under the influence of the hoary old fallacies which it is the despair of the teacher of principles of economics to eradicate from the popular mind. In particular, they treat money with too much finality. It is not merely that they are too sympathetic towards mercantilist and protectionist heresies (which in fact they are); but in a broader and deeper sense the discussion of trade relations is prone to stop with facts of buying and selling. The economist wants to know more about the ultimate division of labor and real terms of exchange, and the path or circuit through which a balance is effected. Similarly in connection with taxes or tribute from one region to another. Not, of course, that we expect historians to give us the whole picture in quantitative terms; that cannot be done for present conditions. But the feeling persists that if the historical writers had adequately felt the problems they might have recognized relevant data which escaped them, and at least would have organized their material more satisfactorily. It is in connection with interregional economic dealings that a feeling of imperfect theoretical background most often arises, but there are

weaknesses in other fields, in the discussion of money, capital, banking, competition, profit, prosperity, and so on, through much of the list of fundamental notions in the mechanics of exchange relations.

Turning to the second point, we suggest that the historical repugnance for generalizations and insistence on "facts" is likely to mean that he conceals his generalizations from himself and his readers. It is hard to see how significant or readable history can be written without organizing principles, and needless to say no one really attempts to restrict himself to a mere sequence of separate, random assertions. It seems to be a question of using principles consciously and critically or following unconscious literary instinct. We must even take up for the despised and abused notion of historical "stages." If one cannot find some kind of landmarks along the way, it becomes impossible to speak of a way or a movement of any kind.

As to the kind, number and scope of generalizations or stages to be employed in historical exposition, there is of course room for a very wide range of difference of opinion. But why not also for a wide range of practice? In scientific discourse generally, it proves advisable to sacrifice accuracy to simplicity and generality and, vice versa, in varying proportions on different occasions. At the risk of seeming merely to bait the historians, but in all seriousness, we dare to suggest that for the real purposes of historical study in a general education or that of an economist, a meticulous authenticity is not the main desideratum in any case. The use of history is to reveal and illuminate the essential features and forces in social structure and change of our own time. For anyone outside the cult of research specialists, history must be approached with an emphasis on ideas rather than facts; the brevity of life alone excludes any other course.

Regarding the merits of particular interpretive ideas (whatever the speaker's superficial impressions may be worth) the main point for emphasis is that history must be studied viewing its content as opinions and attitudes rather than acts in any literal sense. Hence its interpretation is a matter of some sort of "dialectic" rather than of anything like mechanics. The overshadowing prestige of natural science in our day makes it needful explicitly to stress the fundamental contrast between its procedure and concepts and those of history. Perhaps the main concrete question relates to the primacy of interest or knowledge. Again more or less in opposition to the tendency of the age, the speaker inclines toward giving interests the dominant place. There is a specious plausibility about taking interests for granted, or regarding them as universal, and finding the essence of change in the discovery of new methods of realizing or satisfying them, hence in "technology" in the broad sense. But it seems to us that in connection especially with the major historical change in which we are interested on this occasion, a change in interests went ahead of and we may say "caused" the technological revolution which is the conspicuous feature of modern economic history. From Roger Bacon to Francis Bacon and beyond, men seem to be getting, or becoming possessed by, the idea that the world is to be remade rather than submissively accepted, and the growth of this wish, determination, and faith seems to run ahead of actual achievement. Of

course interaction is so conspicuous that it becomes rather like the problem of the hen and the egg, yet the question is real in the sense of any question of historical causality, and the position suggested seems the more defensible.

This is the main point to be thrown out for later speakers to discuss, if they see fit. It has two aspects or implications. First, it makes the spirit *(Geist)* the essential factor in modern capitalism, à la Max Weber; and second, it views the spirit of capitalism as essentially the spirit of progress and improvement (diverging appreciably from Weber). Naturally, there are many elements in capitalism, and even in its spirit. But allowing for what are rather survivals from earlier periods, and attempting to separate what is primary from what is relatively incidental, we suggest that the real revolution separating and differentiating modern (especially American) economic life from all that has gone before is this spirit of "bigger and better," the constructive transformation of the world and of individual life through knowledge, technique, and organization.

H. Heaton.—The search for a theory to explain the origin of capitalism has up to the present been singularly unsuccessful; the explanations put forward have been slaughtered one by one. Perhaps the time has not yet come for even a provisionally final answer to the question, "How did capitalism emerge?" and for the present we must be content to ask, "How did capitalists emerge?" I am not sure that the wider question is capable of answer. It assumes that once upon a time there was no capitalism, but that at some unspecified time and place a spirit moved over the face of the waters, and a new order was created. This Genesis-view seems misleading. "The capitalist spirit is as old as history" (Tawney); there was something that could be called capitalism in Phoenicia, in Greece, in Rome, in the Orient, in medieval Flanders and Italy and Constantinople. The question to ask is therefore not, "How did capitalism emerge?" but, "How did it emerge in Germany, or Spain, or England? How did economically new regions copy-cat the older ones? How did the capitalistic spirit, organization, and activity spread and move westward?"

The answer is largely to be found in the emergence of opportunities, in the realization of the existence of those opportunities, and in a growing ability to grasp them. Let me apply this to England. We seem to find it impossible to give a satisfactory definition of capitalism, but we should all agree that it is a system in which capital is used (maybe in largish amounts) in the expectation of a return in the form of rent, interest, or profit. How far native capital and capitalists existed in England during the Middle Ages we do not yet know, but there was probably much more English capital at work than is generally assumed. A detailed study of the wool trade now being made will probably show that the English merchant was quite important in that field; the ulnage returns, the Cotswold churches, the sums lent to Edward III by native *nouveaux riches*, the tin mines, all bear witness to the presence of substantial industrial and commerical capitalistic classes.

By the sixteenth century we are out in the daylight, and can see what was

happening. The opportunities had come, were being realized, and there was growing ability to take advantage of them. Opportunities appeared in privateering, in exploiting some monopoly, in the slave trade, in bullion-snatching, in the discovery of precious metal areas, in fisheries, colonization, the cloth market, the Oriental and colonial trade, or in various fields of domestic development. Men who saw these opportunities, and saw their foreign neighbors exploiting them, did not need to go to Baxter, Bunyan, or nonconformist chapels. We can readily admit with Tawney that the capitalist spirit "found in certain aspects of later puritanism a tonic which braced its energies and fortified its already vigorous temper." But the sight of Portuguese, Spanish, and Dutch wealth-making was enough incentive in itself; evidently there was no mystic charm or providential dispensation giving Italy, Flanders, the Hansards, or the Papists a monopoly of the world's good things. So English capitalists set out to capture their share.

What were the means by which this was accomplished? There were two—the joint stock company and the activity of individuals or partnerships. Joint stock was of vast importance in pooling the small savings of the non-merchant classes in an age when there were few large sums of capital in the hands of any one man; stock was easily transferred, the profits were on the whole satisfactory and at times spectacular, and the principle was capable of application in a diversity of ways, from mining, privateering, or colonizing. Hence dukes and earls, titled ladies, privy councillors and judges led the way, and a crowd of knights, clergymen, widows, spinsters, merchants, and tradesmen followed, pouring their spare funds into the companies.

Much of this capital undoubtedly came from land. "The nobility and landed gentry of Elizabeth's time were ready enough to invest their capital in industry and commerce when they saw a fair chance of gain" (Unwin). Much of this capital was the product of wool, land speculation, higher rents, and primogeniture. A German tourist remarked in 1585 that "the value of the estates of the nobility cannot be reduced, for the eldest son inherits all; the others enter into some office or pursue highway robbery, as they do also in Scotland." The last six words are probably true, and primogeniture, by keeping estates and land incomes intact may have contributed to the supply of savings available for investment. So the landowner put his funds into colonization companies and foreign trade; he undertook home ventures, such as mining, metal working, etc.; then in the eighteenth century his money went into turnpikes and canals, or into agricultural improvements.

The second source of the English capital supply was commerce. Often from small beginnings he built up large fortunes, and ploughed his wealth back into foreign trade, into the entrepôt trade that flourished on the handling of colonial wares, or into domestic commerce. His resources overflowed into banking and insurance; he developed acceptance houses, established most of the provincial banks, and often withdrew, as in the case of Rothschild, from the handling of goods to the field of finance. He did much to finance small-scale industries, by letting small industrialists have

raw material on credit. "It was in this way, by the flow of capital inwards from commerce that most of the early industrial enterprises of Lancashire got started, and that the immense expansion of the cotton industry was made possible" (Unwin). Later, some merchants turned manufacturer, and erected several of the early factories.

The third source was industry, though probably industry contributed less than land or commerce until the Industrial Revolution. There were big industrial figures in medieval England, and later on they were far more numerous than we once thought. But the small cost of equipment and the existence of fairly good marketing facilities made it possible for men to start industrial life in a small way and build up large businesses. The great ironmasters of the eighteenth century were originally small blacksmiths, locksmiths, nail-makers, etc.; Owen, Dale, Oldknow, Radcliffe, and Hirst began as handloom-weavers, journeyman-clothdressers, or draper's clerks. Much of the capital and energy put into industry came from yeomen and the small landed gentry; in the Shropshire iron region every farmer had a forge or two at which he worked when he was not farming; in Warwickshire the small landowners sank coal pits, in Worcestershire they opened salt springs, in Staffordshire they made pottery, in Lancashire and Yorkshire they dug for alum, in Buckinghamshire they set up paper mills, in Northamptonshire they opened stone or slate quarries and supplied the growing leather trade from their tanyards (Unwin). In Lancashire the first cotton spinners were largely of yeoman stock. And while landowners turned to industry, merchants often financed small-scale manufacturers. But these manufacturers, when they became successful, turned the tables not merely by financing their own purchases of raw materials, but by giving credit to the merchants who handled their finished products. Many of them even abandoned manufacturing, turned merchant, or put their capital into banking.

The English capital supply therefore came from many sources, through a diversity of avenues, and ran over from the field in which it had been created into other fields. Land financed industry and commerce, commerce financed industry and banking, and industry financed commerce and banking. This mobility of men and money became more marked with the Industrial Revolution. Many a manufacturer became his own merchant, thus eliminating one or two layers of middlemen; we find this in Lancashire and in the active selling campaigns of Wedgewood. But on the other hand many merchants turned manufacturer, and built up some of the largest industrial establishments of the early nineteenth century. They did this in order to take advantage of the new inventions, in order to be able to meet orders without having to rely on the public markets or small independent producers, and in order to eliminate the defective workmanship and embezzlement of material inseparable from the putting out system.

A good instance of the overflow of capital made through commerce into industry is seen in the case of Benjamin Gott, of Leeds, whose work in building the first large woollen mill entitles him to a place in the portrait gallery of leaders of the Industrial Revolution. The son of a middle-class

engineer, he entered a firm of Leeds cloth merchants who did a large trade with America. He seems to have been the first of his family to go into the cloth trade, and possibly therefore saw opportunities more clearly than did those who were hereditarily cloth dealers. When steam and spinning machines came to Lancashire, he decided to build a factory and experiment in large-scale production of woollens. He installed one of the biggest Boulton and Watt engines, centred all processes, manual and mechanical in one mill, and so was ready to take advantage of the French Wars when they broke out. He built a second and a third mill, and by 1810 was employing a thousand hands. He experimented ceaselessly with new methods, and fought, not always successfully, the opposition of his men to new machines or processes. He scoured the countryside for wool, sent travellers round England and agents through America seeking orders; he worked out elaborate cost accounts, and found he had reduced the cost ratio between making and material from 5 to 1 to 1.6 to 1, thirty years before the power loom was fit for use in weaving woollens. He supplemented his own production by buying from cottage clothiers, he imported Saxon and Spanish wool, and blessed Australian wool when it appeared on the market. He was ready to supply any order, from a single piece to a $140,000 order from Boston. He dressed and blanketed the armies of England, Russia, Prussia, and Sweden, served the American fur traders and the merchants of South America and China. He became a millionaire; yet he still described himself as a merchant, and admitted that he had taken to manufacturing "rather from possessing capital than from understanding the manufacture." Many other merchants followed his example and worked out the problems of factory production; while from the opposite direction came a stream of successful industrialists, bent on using their hard-accumulated funds in the establishment of factories which would bring into their pockets some of the profits flowing into the coffers of the Gotts. Thus the transition by which industrial capitalism displaced commercial capitalism from the position of prime importance was a movement in which both industrialist and merchant played a part.

Heinrich Maurer.—The economic historian has not been unaware of the proposition of the newer social sciences such as psychology and sociology that he is dealing with a process, a social process; that to describe it as a social system, a set of attitudes, a behavior organization goes far to describe the thing called capitalism. Unfortunately, the new point of view, the social side of economics and its history, has come in through the wrong door; at all events, the instinct hypothesis of human behavior gets us nowhere with our problem of the rise of capitalism. That another, and, in my estimation, much more useful hypothesis made its debut with a *faux pas* was also unfortunate; namely, the thesis of Max Weber about the *Geist des Kapitalismus*. It is a little awkward to deal with a spirit which shows up before it has had its proper day of incarnation and then find the embodiment of that spirit carrying on as if nothing had happened, after it has given up its *Geist*. Even so, properly ingested, taken with caution, and properly translated,

I have found Weber's *Geist* a profitable hypothesis to apply to the problem of the sublimation of the economic virtues, the *argumentum ab utile,* the rise of the proposition that business is business as well as the gospel of our latter-day saints that business is service. I have applied it to the problem in America and have found that the profit motive as well as the service motive as they exist in America in such types as the enterpriser or the German farmer in the middle west, betray the mold in which they were shaped, the Calvanistic and sectarian parish on the one hand, and the Lutheran church on the other. In view of the reintegration of those two motives in industry, in view of the rise of "social" capitalism it is worth while to consider the connection between institutional religion and the rise of early capitalism. What then are some of the decisive attitudes of Protestantism towards the stewardship of riches? Upon what terms did it reconcile both the service of God and the service of Mammon?

1. Protestantism did not simply release an alleged "acquisitive instinct," it domesticated it, tamed it. In the presence of riches, to be sure, the wishes of the natural man are incalculable in their caprice. But Protestantism, with its more effective system of social discipline, controlled them. It thus legitimized the business in general, i. e., the business of carrying on in the world for better or for worse. In the old synthesis, it will be remembered, the only legitimate profession or occupation or business, so to speak, had been that of the ascetic, the monk, of him who turned his back upon the world and called it vile. Puritanism, on the other hand, if it did not call it pure, took too much for granted. Luther, at all events, started out by asserting that of all the earthly callings and professions only that of the monk was not legitimate. He sublimated, we may say, the quality performance of the craftsman in his guildshop, the burgher in his counting room, the drudgery of the yokel of the glebe. Whatever they were doing, to keep everlastingly at it, each in his station, he told them was a fine thing, in the eyes of God. This became the German way of furthering the Kingdom.

Calvin, on the other hand, reversed Luther's proposition: his people came to find themselves damned unless they got ahead. He revised the calling into a roving commission. He thus released the individualism of enterprise in America. On those two basic attitudes towards the business of living, those two articulations of the categorical imperative in the economic field, modern capitalism rests. Quality performance in shop and job stewardship on the one hand and the hustler on the other keep going today without the blessings of religion. Capitalism can do without its sanctions. But it was not capitalism which organized and started them. It was Protestantism which gave spirit to capitalism. It was not a new technique of money saving; it was a new technique of soul saving which gave modern capitalism its start.

Thus the Protestant secularization of the Kingdom gave it a stable social environment, a staying power, a self-righting quality in the days of its crises, a power independent of its functional worth. Like our latter-day gospel of service, Classical Protestantism begged the question of functional adequacy with the proposition that business is more than business, that

Piers Plowman, also had toiled but without illusions; the wages of sin

by doing a man's work in your business you were doing God's work in His Kingdom.

2. Having thus Bourbonized business, Classical Protestantism endowed the Christian with the "right of private judgment" and thus upon it bestowed its social absolution. Where formerly "the devil a monk would be" he now lost less time and money by proving himself a good Calvinist, a stout Lutheran who "could do no other." The right of private judgment, I mean to say, opened the door to an unsocial *argumentum ab utile,* the categorical imperative to much sabotage against the commonweal. It gave way to a stewardship of riches absolved from social, and from community control.

3. Protestantism took over from the old technique of institutional sanctions the proposition that *abusus non tollit usum* and thus backed any existing social order, any existing arrangement in the uses of capital goods, any existing distribution of the surplus thereof with the presumption of legal as well as divine institutional right. Having claimed for any existing distribution of industrial opportunities, and for any relationships to the surplus the implication of prescriptive right, of rationality in relation to divine plan, it put the burden of proof upon the dissenter, upon him who asserted that if things were what they were, it was certainly not so "writ in the bond."

4. What is more significant, in the days of fundamentalism, orthodox Protestantism had its own notion of a higher lawlessness to match its own notion of a "higher law." At all events it usually damned with heresy the dissenter, and the social rationalism of the underprivileged. There was no place in this philosophy for rationalism, either the empirical and pragmatic social rationalism of the liberal, or the rationalism of the socialist. The Lutheran in the Middle West at least (and he is no negligible factor in the articulation of American capitalism) even today exorcises the spirit of Marxian, and of every other socialism, by the lanthorn of Luther's theology. Having held fast to Luther's naturalistic conception of money, to Luther's tabooes against forestalling, he has little use for the credit system and less for speculation. He has thus been relatively immune from the price crises of American speculative capitalism. So has the Middle West been safe for the gold standard, and American capitalism immune against Bryan. Thus while Weber underestimates greatly the importance of traditionalism of the Lutheran ethos as compared with the Calvanistic salvation individualism, yet the former is also proof of Weber's general thesis.

In its relation to the history of capitalism in America, two further elements stand out conspicuously: the affinity of the Luthern ethos for state socialism and its aversion against the class concept. The Lutheran farmers of the Middle West still consider themselves as part of one another and of the rest of the world in terms of Luther and not in terms of Marx. Nor indeed in terms of Wilson. Their parochialism is immune against the new economic, the new political internationalism as well.

5. Having taught the enterpriser that he may keep what he earns, Protestantism taught labor that it must earn its keep. Mediaeval man,

Piers Plowman, also had toiled but without illusions; the wages of sin for him were toil and sorrow and in the end death. Protestantism, on the other hand, is responsible for the magnificent fiction that there are wages of labor beyond. It not only assured labor that the social order itself as divinely ordained guarantees a living wage for the toiler, but it gave him a psychic income to boot. Today every robot to the factory system who punches the timeclock can rest assured, if he wants to, that he is doing his bit towards furthering the Kingdom. For that theological credit system, capitalism is so much to the good.

6. Nor has Weber made enough of the fact that the new salvation economy of Protestantism has annexed time, man's time, clock time, to God's time. Mediaeval man had plenty of time. Nor was his time money, exactly. In his end perspective, it was the business of dying that counted. Not so with Protestantism; here it was the business of living that mattered in after life. If the Catholic was worried, it was lest it might be too late, lest the devil get him in the end. Not so the Calvinist; he always worried, he always hustled, lest the devil have him already, lest it be too late. Thus answerable for his time, he made conscientious use of it in his business. He learned to make rational use of it, to take a long view of things, to plan ahead, to wait. No wonder he discovered early that time, his time at least, was money as well. Small wonder if the time factor, the factor of waiting, of future performance properly discounted, became his most valuable pound, that he learned to capitalize that particular pound. The credit system, I mean to say, rests on the Calvinistic attitude towards time. In America, while it owes its start to the colonial, the balance of trade situation, the land situation, the law of comparative advantage, it never got far away from the social organization of the factor of social good faith by the religious congregation. In the face of much social disorganization, much social mobility, much going "to Texas" and elsewhere, what helped the credit system survive the Indian years of American capitalism was the fact that paying one's debts was a condition of good standing in the religious community, of status in the Kingdom. We owe it to Protestantism, then, that we are able today to enjoy God's blessings in advance by way of the charge account and pay for them afterwards, on the installment plan. We can trust each other because of the way in which the Puritans trusted in God.

7. The credit system was safer than elsewhere in the Protestant medium for another reason. Protestantism domesticated society to a rational, a productive use of capital goods; it socialized a sharp job stewardship and ledger-conscience with people who were wont to calculate the balance of life in terms of a salvation end balance. While it thus accelerated the economic metabolism, the rate of production, the volume of trade, it had a sharp and ever jaundiced eye on "superfluities." It tabooed "conspicuous consumption" of valuable goods and invented the gospel of thrift. It is enough to say at present that the influence of religion upon the mores of different ethnic and culture groups had been strong enough to affect the

stratification and distribution of those groups, the terms of their co-operation in the economic order of today.

8. Nor is the Puritan pharisaism of frugality, its standard of "solid comfort" instead of luxury; nor was the Methodist resentment against the aristocratic style of living without a direct influence upon American industry; it probably helped to standardize demand and thus prepared for standardized mass-production. A rational market economy was favored also by the attitudes of the stricter sects (the pacemakers of constructive capitalism) towards the price system, fixed prices, "honest" weight and measure, and so on.

My contention is that the likening as well as the differentiating and selective influence of sectarian Protestantism with its social pressures, deserve a careful study in their relation to American industrial society. The conditioning of the enterpriser, the toughening of his will and morale, the sharpening of his power of observation, the focusing and limiting of his social interests, the development of his capacity for long-distance planning, of his ability for leadership by indirection, the selection of types of attitudes by the religious communities, the relation of all those conditioning processes to the rise of American capitalism has not as yet been touched.

Melvin M. Knight.—There is some justice, and also a good deal of misunderstanding, in the discontent of many economic theorists with the historians. It is not to be doubted that most of the economic history is weak on the side of economic analysis, and would be greatly improved by more attention to such theoretical problems as must have existed in other times and places, even though attention has been focused upon them only in the contemporary civilizations around the North Atlantic. On the other hand, economists need more caution in dealing with history. Every historical situation is intricate, and all historical records are fragmentary. Approach these with a comparatively open mind and you are likely to find out something new. Bring with you a set questionnaire with which to quiz people long dead, who never thought of your questions or saw the conditions which prompted them, and heaven knows what you will get. Some people would call it history. A first or erudite synthesis, as the French call it, may be safe enough at the hands of those who know what has been left out in order to generalize in mere, slippery words. Later syntheses, built up through generalizing with terms already fairly general, by people unfamiliar with the complications which gave pause to the original investigator, multiply the possibilities of error at an appalling rate.

It is easy enough to define "capitalism" for a specific purpose, in connection with an actual situation in time and space. Aptness and simplicity are gained by emphasizing some aspect of a complicated question at the expense of others—naturally the aspect which seems important for the purpose. This is all I have to say in defense of the paragraph on page 122 of my little *Economic History of Europe to the End of the Middle Ages*. The tendency for ownership and management to separate themselves from the

technical details of production seemed to be general, and not restricted to the Florentine *Arte della Lana* under discussion. This and the further detachment of ownership from the risks and responsibilities of management represent a change which has gone particularly far where capital has taken on great mobility through the use of negotiable instruments and securities. I take it that the capital of capitalism is always financial, though the thing financed may be either trade or industry, depending upon the time, place, and circumstances.

Capital in this sense of a loan fund lends a fluidity or adaptability to the physical and human resources variously classified as factors of production. To mobilize the former, and through it the latter, the loan at interest is of first-rate importance. It is, as Professor Sée rightly insists, "the essential manifestation of capitalism." He holds that the ancients did not understand interest as a payment for the operation of capital as a function of time; but the elaborate classification of different kinds of loans, each with its own maximum rate, indicates that they may have suspected what they never formulated as doctrine. If history is to deal at all with a loose, sociological expression like "capitalism," susceptible of various definitions, the negative and critical aspects of the problem are at least as important as the others. Starting from the proposition that the business loan at interest is at least one of the essentials for the growth of capitalism, we immediately confront the necessity of a working definition of the capitalistic type of economic order as fully developed, and of examining various factors which seem to have been favorable or unfavorable to that process of growth.

Remembering the origin of the term under discussion, we will do well to bear in mind that to the doctrinaire socialist, the capitalist is the enemy in a class struggle, and the corresponding "ism" becomes a sort of epithet, representing his ascendency in the momentary situation. Even the Webbs have not escaped this. Capitalism is a stage to them, involving the subjection of labor. It is not so much the ethical implication which interests us as it is the notion of stages or degrees of development, which may or may not have arrived on the historical scene in any progressive order. According to Max Weber, capitalistic enterprise has predominated, in the sense of providing for everyday wants, only in the occident and since the middle of the nineteenth century. His test of predominance is our inability to imagine the withdrawal of such organization without the collapse of the economic system. He lists its main characteristics and prerequisites as the general appropriation of the physical means of production by private business men, the removal of all irrational restrictions upon marketing, a régime of uniformly administered and highly calculable legal codes, labor not only free to work for wages but obliged to do so, the commercialization of economic life by the use of credit instruments and negotiable securities for the rational assembly of capital, and the speculation which arises from this last item. By the rationality stressed so much by Weber, he seems to mean the reduction of economic processes to calculable elements, susceptible of quantitative expression and reduction to balances in the technical sense of

modern accounting. For him rational technology is a sort of seventh prerequisite, and implies mechanization.

All of the above qualifications admit of degrees, and are much less explicit than they seem offhand. For example, the gild structure of life in medieval Florence imposed certain irrational restrictions upon the freedom of marketing; but these were much greater in towns with less foreign trade and manufacturing for outside consumption. It is at least as important to note that they were less in the particular crafts or businesses within the town which worked for outsiders than in the others. Laborers moved from one job to another with much less facility than now, a fact which has to be reckoned with in explaining why capital lacked mobility. As to the so-called spirit of modern capitalism, it is as ancient as the loan at interest. Tawney himself has not characterized it with more accuracy or insight than Xenophon, in a dialogue attributed to Socrates in the *Oeconomicus*.

As suggested above, the spirit and substance of capitalism existed in some kinds of business, and for some people, in both medieval and ancient times. I think we can answer more questions than in any other way by asking what prevented this type of enterprise from permeating whole societies and taking possession. Where we do find capitalistic methods in earlier ages, they are generally in connection with foreign trade. The most important and best documented illustration is perhaps the respondentia loan. These contracts were minutely regulated in titles 101-107 of the Code of Hammurabi, a good deal over four thousand years old. Such loans were found necessary by the Babylonians in connection with the caravan trade, essential foreign commerce in both raw materials and finished goods. As in the later bottomry contracts of similar type the lender advanced a sum of money to be repaid with a stipulated premium, including the interest charge in case the goods were safely delivered. Premium and interest came to about 35 per cent in the contracts which have come to light. The Hindus used this type of loan for both sea and land trade before 600 B.C., but there is no trace of it in either China or Egypt. With the Phoenicians, Carthaginians, and Greeks it was purely maritime. Meticulous descriptions of the terms of these loans in Greece have survived, notably in the pleading of Demosthenes against Lacritus. Boucher, writing in 1806, stated that this Lacritus contract was practically identical with French ones still in use.

Rome inherited a tremendous fund of capitalistic practices, and evolved methods of regulating them which are still deemed worthy of study in the best law schools. The transferable share was known to the Romans, but used only in connection with quasi-public corporations. It has been pointed out that purely private ones of similar size were discouraged by law—which is not self-explanatory, but merely throws us back upon the system of social classes and the theory of government. On the practical side, there was no great need for large aggregations of private capital. The *matériel* of commerce and industry was not expensive. Industrial units and ships were small, and the latter did not hold much, or make the tremendous voyages of our time. As Buckland, Radin, and others have pointed out, the organization of business corporations was unnecessary in order to

achieve limited liability, as this existed in partnerships under the Roman law. The limited and peculiar character of agency in the Roman law would evidently have hampered the growth of large private business units, with the reservation always that there is no real reason for assuming that a considerable pressure in this direction would not have led to even greater modifications than those actually made. A large fraction of the business was carried on semi-independently by slaves, each with his *peculium*, originally advanced by the master. In general, the master's responsibility did not exceed this amount, which was technically his property as the owner of the slave.

The system of small-scale industry and commerce, together with certain quasi-public corporations at vital points, seems to have answered the purposes and desires of this huge and variegated group for a long period. In a recent remarkable book on *Slavery in the Roman Empire*, R. H. Barrow enters a general denial of the common charges against this institution. Slaves of that quality could easily have been liberated if their labor did not pay. There was sufficient knowledge of mechanical devices and ample incentive for their improvement and use. Barrow falls back upon the shortage of cheap and good fuel, the high cost of transport, and hence the overwhelming importance of agriculture and local industries, as an explanation of the check to what we are here calling capitalism. The development of industries in outlying provinces checked the growth of export industries because of the costly haul. Moreover, the ownership of the laborer himself, carrying with it the necessity of shouldering both the capitalist's and the laborer's risk, has never tended to great boldness of flexibility in applying the two to strange ventures. Though the Roman revenue-farming association *(societas publicanorum)*, with its alienable shares, management by an elected directorate and liability limited to its own property, was the direct ancestor of the modern corporation *(société anonyme, società anonima)*, we may say that the Romans had no occasion to use it in private enterprise.

Bottomry and respondentia loans continued throughout the middle ages, in spite of the low maximum rates finally fixed by Justinian and the attitude of the Church toward interest. As in the ancient period, most of the companies doing business abroad were organized on the family basis. Fortunes could be held together in that way by entail and voluntary indivision. Yet one reason why the Bardi and Peruzzi failures in the middle of the fourteenth century were so important was that nearly all Florence had money invested in the enterprises in one way or another. It is of interest that the Fuggers, who bridged the gap between medieval and modern times, got the idea of financing the new putting-out system of industry.

Capitalism, in our sense of the term, evolved rather rapidly after the voyages of discovery initiated real world trade for the first time. In earlier ages, goods from remote places had changed hands repeatedly on the way. People who had fingered Chinese goods all their lives regarded Marco Polo as the most delightful liar in the world. After the initiation of the single long haul by sea, ships grew rapidly in size and expensiveness. The

cost of transport dropped to a fraction of what it had been, and the volume of demand swelled with the declining prices of oriental goods in terms of European ones. The larger company was a necessity to organize collection and distribution of goods at the respective ends of the haul, as well as to pay for actual transportation. Permanency of the investment was as important as its size. As long as the number of producers and consumers who never saw each other was relatively small, capitalism remained insignificant, depending as it does upon wide territorial specialization.

Every real student of the middle ages knows that the "other worldliness" of the period has been overdone to the point of caricature. In the cities along the trade routes and in the export industries, business ethics and practices were not so different in the fourteenth century from what they became in the sixteenth. Giry and others have adequately dealt with the widening territorial specialization; but we have yet to see any satisfactory treatment of the emergence of the national state. The absolute necessities of civilized life are relatively easy to provide in the Mediterranean region. Beds, fires, and warm clothing were luxuries in most of Italy until modern times. In the North European environment they are necessities, and the problem of foods which will furnish warmth and vitality is also quite different. Once the primary resistance of Northern Europe to civilized and cultured existence was conquered, life on a higher economic level was possible; but the conditions create a greater pressure of wants, and furnish a wider field for the development of individualism. Private business as a calling or vocation (Luther said *Beruf*) in the semi-religious sense is North European as well as Protestant in its origin. People have to be more economical in that environment because their minimum needs are greater. Slavery did not pay there. A different type of organization was called for. We unconsciously thrust a meaning into the word "serf" which obscures the amount of what we should call democracy which existed on the North European manor.

Economics and history would draw closer together if both would pay more attention to regional geography, which I suspect of being the basic social science. Religions become tangible in the social-scientific sense only with intimate study of the conditions in which they appeared and the changes forced upon them in new environments. Christianity was not the same in semi-arid North Africa, where much of its theology was evolved, as it was in the Near East. In Southern Europe it was still different, and the differences between North and South in that continent did not begin with the Protestant Revolt. Mohammedanism was a dry-country religion which always had the greatest difficulty in adapting its codes and assumptions to wet or cold regions. I am merely trying to convey by illustration my objection to the supposition that Calvinism can be a "first cause" of capitalism. Similarity of names and formulas must not blind us to the fact that religion is not a cause in that sense, but a rather intimate and limited product of certain conditions.

In these conditions, a great deal of history is always superimposed upon the original geography. I recently visited Indo-China, where the French

have been trying for a half century to impose European capitalism upon a village community system reinforced by oriental family solidarity, including a veneration of ancestors deeply buried in religious and educational practices. The difficulties they have encountered form almost a laboratory for the study of resistences, so varied that they almost refuse to go under the broad term human-geographic. Capitalism cannot exist without production for the market on a broad scale. This means communications at the outset. Road building takes labor, and Europeans cannot do heavy work in that climate. But if you take a native away from his village, you remove him from the only type of discipline with which he has had any experience. Moreover, a central government safe for capitalism cannot be established without undermining the whole fabric of local organization, and starting in at the foundation with most refractory live materials. Even the European village communities must have been a tremendous hurdle for capitalism to get over, precisely because they represented an old system—hard to break into anywhere without upsetting it everywhere.

I feel that I am concluding my remarks at the point where a serious discussion of this subject should begin.

William Jaffé.—It appears to me that a clue to the solution of the issues raised with regard to the emergence of capitalism is to be found in the reasons for our interest in this problem. We live in what is conventionally described as a capitalistic era, and we are naturally curious to know how we came to this pass. The chairman has been repeatedly raising the question: "What is capitalism?" No clear answer has come from any of the previous speakers; and no clear answer, so far as I know, is to be found in any of the writings of the historians of capitalism. It is, perhaps, a good thing that there is no universally accepted, cut and dried statement, for this may mean that we are closer to a real understanding of its essence. I believe with Sidgwick that we are apt "to underrate the importance of *seeking* for the best definition of each cardinal term and to overrate the importance of *finding* it." What better ground have we for seeking this definition in our own life and environment?

Modern capitalism has two fairly distinct, though by no means independent aspects, one material, and the other spiritual. Our era is characterized by the factory, machinery, and mass production intricately organized over vast geographical areas. These are materialistic features. Our era is also characterized by forms of ownership, by employer-employee relationships, by systems of commercial intercourse, which, I should say, constitute the main spiritual, at any rate, non-material, features of present-day economic activity. I am simply restating the Veblenian distinction between industry, which is material, and business, which is spiritual. If that is true, then the study of the emergence of capitalism should be dichotomous, as indeed capitalism is itself.

My quarrel with the previous speakers, as with most historians of capitalism, is that they overemphasize business at the expense of industry. They are concerned almost exclusively with the evolution of the devices, the

instruments and the social arrangements for appropriating and owning things, and give too scant attention to the evolution of the things owned. It may be, as Professor F. H. Knight suggests, that economic historians do not know enough about economic fundamentals, and that this ignorance vitiates their treatment of economic relationships; but I venture to say that economic historians suffer more from their ignorance of the fundamentals of technology and therefore reveal too rarely the continuous process by which changes in the technique of production affect changes in economic organization. Only during the so-called industrial revolution, when the factory system was first introduced extensively, are technological conditions clearly presumed to have exerted a preponderant influence in shaping social, economic, and legal relationships. Perhaps one of the reasons why this point of view is not carried further forward, is that most economic historians come to the end of their tether of comprehension of manufacturing technique, once they get beyond the earlier simple transformations in textile machinery and the harnessing of steam power to this machinery. They are bewildered by the intricate maze of mechanical, chemical, and metallurgical feats of engineering which characterize the more recent phases of industrial progress; and they take refuge, therefore, in the contemplation of the more metaphysical problems of distribution and ownership which are assumed to have an autonomous existence and growth.

I grant that there is no absolute proof that the material conditions the spiritual in the emergence of capitalism. One can only offer hypotheses as to which is the independent variable, and these hypotheses are unverifiable, based, as they must be, on one's deepest prejudices or *weltanschauung*. I cannot agree with Professor Maurer's view that the value modern men attach to time is the consequence of Puritan acumen in theological dialectics. Time has unprecedented value because we live in a machine age, and machinery is timepaced. I should like to see a reaction against the prevailing exclusive emphasis on non-material factors. I believe that there is a need for the study of the emergence of capitalism conceived of as based on the evolution of contemporary machinery and methods of manufacture. A study of this kind might begin with a description of eighteenth century industrial technique (for which interesting material is to be found in Roland de la Platière's *Encyclopaedie Méthodique*), but should not end there.

What I object to most particularly is the current practice of tracing modern industrial capitalism back to the accumulation of titles of ownerships, whether this accumulation be conceived to have arisen from ecclesiastical tithes, feudal rents, or commercial gains. To assume that these pyramids of gold could, when sufficiently high, be converted into the iron and steel sinews of modern industry, is tantamount to an expression of faith in alchemy turned upside down.

LOCALITY DISTRIBUTION OF INDUSTRIES

RALPH C. EPSTEIN, *Chairman*

The subject of industrial location is as baffling as it is fascinating. Often the factors which account for the settlement of a given industry in one place rather than another are obscure, difficult of discovery, impossible of ready classification. Most formal attempts to analyze these causes have consisted merely of enumerations of many different factors, all held to be "contributory" to the final result. Such lists have been of undoubted value, although they constitute but the starting point. Beyond the compilation of these lists, however, comparatively little has been accomplished towards the formulation of general principles relating to the phenomena of localization.

Chiefly to stimulate discussion, I wish to suggest an hypothesis relating to the general trend of industrial location—particularly with reference to manufacturing industries. This hypothesis, which I shall state much more dogmatically than the facts which I have thus far collected really warrant, runs as follows: There are two stages in the development of location factors in any growing industry, once the experimental period is past and production upon a commercial scale is really begun. The first stage is marked by pronounced and increasing concentration in a given geographical area. The second stage involves a redistribution or decentralization away from that area.

The first stage occurs when the industry is young and growing rapidly. Plants tend to concentrate in a particular center or region either because the market is nearby or because supplies and parts can be obtained more readily in the vicinity of such concentrated production. Such has been the development of New England, for example, in shoe manufacturing and textiles; of Michigan, in automobiles.

The cumulative effects of this rapid growth, while the industry is still fairly new, result in steadily increasing concentration in the center which originally attracts the branch of manufacture in question. But eventually there comes a stage when the production of the commodity is so large, and the market in which it is sold is so broad, that the most economical production and distribution require that the article be made, or at least assembled, in other areas as well. Thus the shoe industry, while still a leading New England trade, is now localized also in St. Louis and Chicago. The textile industry has moved south. Even the automobile industry, while still having its stronghold in Detroit, is already decentralizing its processes. The Ford company has thirty-four domestic assembly plants in other cities, such as Chicago, Atlanta, New Orleans, St. Louis, and even Portland and Los Angeles to care for the Pacific coast business. Chevrolet has thirteen manufacturing or assembly plants at points other than Flint. Chrysler has just built a large plant in California. While Detroit and the state of Michigan will remain as automobile centers, they will not continue to assemble

so great a percentage of the cars built. The huge size of the industry and the tremendous market which it now serves apparently will make for even further decentralization.

I do not wish to take the time necessary to analyze the influences which can be shown (or cannot be shown) to play a part in bringing about the development of these two "stages" in an industry's history. But I venture to throw out for discussion this statement: The steadily increasing concentration of production which takes place during the first phase of an industry's development (once the preliminary or experimental period is over) is ordinarily followed, after maturity finally has been attained, by a movement towards the decentralization of processes and functions. I have asked some of our speakers to touch upon this question in their remarks today, and we may have further consideration—or demolition—of the suggestion in the informal discussion which I hope will follow.

H. P. Dutton.—The tendency of manufacturing companies to establish branch plants serving different sections of the country, instead of manufacturing for a national market in a single central plant, has been so general in recent years as to occasion considerable comment. The rapid development of the South is due not only to the shift of industries such as cotton to a region geographically more economical for manufacture, but is also due to the fact that many of the larger companies are establishing branch plants to serve the purely local demand of the South. Similar developments are causing a considerable part of the industrial upbuilding of the West.

In analyzing the cause for this change in the national industrial pattern, we may best commence by a restatement of the more important reasons respectively favoring centralized or decentralized operation. Without going into detail as to all of these advantages of the two plans, we may mention as favoring the large unit the possibility of more complete functionalization that comes with volume, and the improvement of load factor that results when a single plant serves a larger and more varied territory.

On the other hand, if we divide among several local plants the volume of output which might otherwise be handled by a single national factory, there is a saving, obvious and sometimes very great, in travel or transportation. The average haul to the customer will be shorter. Within the smaller plant there will also often be some saving on movement of materials, as compared with the larger and more unwieldy national plant.

Somewhat akin to this internal difficulty of communication in the larger unit is the increasing difficulty of control. As a plant comes to exceed a certain size, it passes the point where directive thinking can be done by one man, and it becomes necessary to functionalize control to an increasing extent. And functionalization here means the multiplication of records and communication. Still another advantage of the plan of operating smaller, parallel units is the fact that risk is divided. A fire, strike, or any similar disaster is less likely to affect the total output where the plants are scattered. Failure of a single department, not an uncommon occurrence, will not jam the whole mechanism.

The economic size of unit for production depends on a balance of these factors. There is no single economic size, even in a given industry; every case is more or less an individual one.

The economical size of producing unit may, however, be considered from the standpoint of the actual processes. From this standpoint the economical unit is a balanced unit. The point of complete machine balance will be reached when, with all necessary allowances for reserve breakdown capacity and the like, each of the various daily output capacities of the machines will divide into the total daily output of the factory without a remainder. Complete balance is not very common, but in most larger plants substantial balance is attained. Any plant having less output than this balanced volume will carry a heavy load of unearned depreciation and other carrying charges.

Within such limits, determined first by the requirements of balanced process and second by the necessity of balanced plant and supervision, we may find for most types of manufacturing a size of unit beyond which there is no advantage in going. In fact, there rapidly come to be serious disadvantages. It becomes difficult to secure employes; they have to come too far to work. All sorts of questions of local transportation arise. Then there is the risk factor already mentioned, the vulnerability of the entire business to a single disaster. It also becomes more difficult to develop managers for the very large plant. Often justification for very large plants appears only where large scale or intricate considerations of process balance made the size necessary.

It is interesting to go further and speculate as to the effect of these developments on the population pattern of the country. Are we likely to see a movement of industry to the country and the small town? I do not think so. For there is, for an industrial community as for a single factory, a condition of economic balance. The factory requires freight service, raw materials, a market in some cases for its own materials with other manufacturers. Specialized tool services, special banking practices such as the handling of pay-rolls, and other facilities too numerous to mention must be at the service of the factory which is to prosper, even when selling and finance are handled in separate offices. To most factories a rather large labor market is an advantage. Here also we can picture the industrial town as a balanced unit.

Just how large the economic town unit should be is again a matter of conjecture. It seems probable that the village, except for possible farming developments, for retired persons or recreation, is likely to find less place in the national picture. Slight advantages continue to accrue with size for a long time, but here again we meet limiting factors, such as the time spent in getting to and from work, the difficulty of effective popular government, the increased cost of land, and traffic congestion.

Is the larger urban center, toward whose development industry seems tending, socially desirable? Our cities certainly present enough difficult social problems, yet with the progress made in sanitation and in social hygiene, schools, and entertainment, city life may well claim many advantages over the country. Certainly most people seem to prefer the city and

the large cities grow larger, although, fortunately, not very rapidly more dense, in population.

Summing up, we see that there is for the individual plant, as for the community, a certain minimum size necessary to balanced production. This is also true of distribution, of executive direction and of finance. The fact that the economic unit for executive direction is much larger than for production would seem to indicate a tendency toward chains of centrally controlled local production centers, as is doubtless true also in case of distribution. Instead of more or less haphazard production by centers, some local and some national, we are likely to see developed a more orderly pattern in which, to an increasing extent, the various larger communities and sections of the country will form themselves into more self-sufficient closed circles of production.

H. L. Jome.—There are two divisions of the radio industry: first, the communication; and second, the manufacturing.

The radio industry from its very beginning was telegraphic in nature and was devoted principally to marine traffic. Later, however, it was also used for transoceanic telegraphy and was experimented with for purposes of communication among inland points. To take care of this traffic numerous so-called "coastal" stations and "transoceanic" stations arose. It was but a step from the use of radio as an aid to navigation to its employment between points on land, particularly in transoceanic communication. It is no accident that when Marconi sent his "S" message across the Atlantic in 1901 the prices of cable stocks were in a flurry because of the fear of competition. The new method of communication two decades later was instrumental in bringing about a sharp fall in the rates for cable messages.

In a brief discussion of the location of radio telegraphic stations no attempt can be made to differentiate between those used for land or transoceanic service and those employed in the marine service. Sometimes the same stations were used for both types of messages. Transoceanic stations were usually arranged in pairs, there being one sending and one receiving several miles apart at either end of the circuit. Between 1900 and 1918 both "coastal" and "transoceanic" stations were set up at strategic points practically always near or on the shores of the lakes or the sea. Such stations at some time or continuously prior to our entry into the war located at the following points: Boston, Cape Hatteras, Arlington, Tuckerton (N. J.), Sayville (Long Island), New York City, Key West, Siasconsett, Seagate, Mobile, Galveston, Tampa, Port Arthur, San Francisco, Astoria, Seattle, Cleveland, Port Huron, Manitowoc, Green Bay, Great Lakes, Poldhu, and London, England, and Carnarvon, Wales, Paris and various points on the European continent.

The localization of such wireless stations is not in principle different today. The Radio Corporation of America, the legatee of most of these earlier marine and transoceanic facilities, operates, either directly or through subsidiaries, stations at Chatham (Massachusetts), New York City, Tuckerton (N. J.), Galveston, San Francisco, Los Angeles, Chicago, Cleveland,

Buffalo, Duluth, and several other points, and furnishes wireless service on about 1,300 vessels.

Beginning about 1921 the radio industry received a great impetus from the popularization of telephonic broadcasting. The localization of broadcasting stations seems to have followed two principles. First, they were established mainly for advertising purposes and thus naturally sprang up near the centers of population. In the second place, as a number of the more powerful were established by electrical manufacturers and large merchandising establishments, the stations were naturally located near the places of business of their owners. At the end of 1924, out of 555 broadcasting stations in the United States, 44 were in California, 35 in Pennsylvania, 30 in Texas, 28 in New York, and 29 in Ohio.

With regard to the manufacturing branch of the radio industry, several facts may be noted as bearing upon the problem of localization:

1. The radio business has allied itself with the older established industries. Out of 41 companies studied which are doing business at the present time, only 12 have radio as their sole product, while 27 combine radio with other products.

2. This combination of products seems economically justified. The processes are similar. Electric manufacturing companies, for instance the General Electric, The Westinghouse Electric and Manufacturing, and the Western Electric, being already in the field, acquired many of the early radio patents; the electric industry already had the necessary skilled research, operating, and administrative personnel. The radio industry, furthermore, requires the co-operation of experts in many lines, such as acoustics, home planning, sound and its physical principles. The radio set must be both beautiful and useful. It is a piece of furniture as well as an electrical and sound reproducing device. Moreover, being a seasonal industry, radio combines logically with the electrical and allied fields, especially if the times at which peaks of demand occur be different. It is further to be noted that the great majority of the important companies manufacturing radio today were in business in some form long before the popularization of the radio.

3. As might be expected, therefore, the localization of radio manufacturing has to a large extent followed the electrical, music, and furniture industries.

4. Census figures show that in the following states, Massachusetts, New York, Pennsylvania, New Jersey, Ohio, Michigan, Illinois, the value added by manufacture exceeds one billion dollars. The states adding from one-half billion to one billion dollars are California, Missouri, Wisconsin, Indiana, and Connecticut. Thus it seems that, almost without exception, radio manufacturing, both of parts and receiving sets, is localized in the above mentioned twelve states.

The reasons for this localization may be noted:

1. As before noted, radio is to a large extent an auxiliary of other products, in relatively few instances standing alone.

2. Radio is a seasonal industry.

3. A great portion of the radio market is found in or near the twelve

states above mentioned, these containing an unusually large number of broadcasting stations.

Most industries that are extremely narrowly localized are such either because of some peculiar advantage or because of the advantage of an early start. Neither of these has been potent in the radio industry. Nor shall we ever probably see the development of "radio towns" similar to our "automobile," "rubber," and "textile" cities. In the manufacture or assembling of receiving sets, 42 per cent of the workers are women; in loud speakers, 36 per cent; and in the construction of tubes, 83 per cent. Returns from plants located in Illinois, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, and Rhode Island show that out of 14,711 workers, 6,941, or about 47 per cent, are women. This great importance of women workers will probably help to prevent any growth of "radio towns."

F. E. Clark.—Two rather definite tendencies are shown in the location of wholesale establishments, both related to the type of product sold. Certain classes of wholesale houses tend to group themselves about a common center. This is particularly true in the case of unstandardized commodities and of style goods. Because fruits and vegetables are not usually closely standardized, many buyers desire to see the products offered and to compare prices and quality. In the second case (style goods) buyers wish to see and compare styles and prices. In both cases the convenience of the buyer tends to keep the wholesale districts for such commodities concentrated within a small area. This same factor is likely to cause the district in which style goods are sold to be located near to the large retail stores. For buyers from out of town also go to such stores to learn styles and values. The wholesale district, the stores, and the transient hotels all tend to group themselves.

In other cases wholesale houses follow the trade. This is true of nationally advertised convenience goods well known to the consumer and retail trade. In this case small stocks are carried by retailers, and wholesale stocks must be near for rapid delivery. Hence the tendency to locate wherever there is a sufficient concentration of retail trade in the type of goods carried.

In the case of specialty goods the main warehousing problem is to find the most economical method and points of storing, since dealers handling specialties on an exclusive basis are likely to carry a reasonably large stock, and so need not be fed on a hand-to-mouth basis. Neither do salesmen have to call at such frequent intervals.

Retail stores have two major means of gaining a volume of trade. They may go to their trade, as is done with convenience goods retailers and in less degree with specialties, or they may locate in a place where they can induce the trade to come to them. Thus, the department store locates in the most important shopping center and brings trade in from outlying areas by means of the variety of its merchandise and the service it offers. The large mail order house obtains trade by means of its price appeal and its guarantee of satisfaction. In each case advertising in one form or another is of the greatest importance in bringing the trade to the store.

Many department stores and the two large mail order houses seem now

in many cases to have reached certain definite limits to the easy expansion of their business. Congestion in shopping centers and the growth of outlying and formerly tributary territories have made it harder to come to the store and easier to obtain what is desired in outlying districts. Both of these situations are causing department stores as well as specialty stores to place branches in these outlying areas.

The mail order houses are faced with competition in the form of improvement in small town stores and the inroads of chain stores into smaller towns, as well as with the tendency for improved roads to take the trade to larger towns where good stores can be found. Sears Roebuck has started to meet this by means of large department stores placed in important areas away from the shopping centers of the larger cities, but in positions which are of easy access and with ample parking facilities. Montgomery Ward and Company is meeting it with the establishment of chains in many small towns and cities, as well as with stores located in their various warehouses throughout the country.

As far as can be determined the reason for the policies of both the department stores and large mail order houses is not due to a decline in business or even the fear of a decline in business (although there may be some question here), but to the end of continued easy expansion plus a desire to utilize an existing good-will and so to bring about a much larger volume of business.

REGULATION OF ELECTRIC LIGHT AND POWER UTILITIES

By C. O. Ruggles

Harvard University

There have been striking changes in the power and light industry within the past twenty years. The federal census of electrical industries which has been taken at quinquennial intervals since 1902 will not be available for the year 1927 until about the middle of the year 1929. Our latest figures, therefore, are for the year 1922. In this rapidly developing industry the use of statistics now six years old gives an inadequate picture of the situation but it is possible to obtain certain other recent official data in the census of manufactures and from current information compiled by the United States Geological Survey. But even the census returns for 1922 show a remarkable development during a twenty-year period. Within this time the number of persons employed in the industry increased 400 per cent, the kilowatt capacity increased 1100 per cent, and the output 1500 per cent. During the fifteen-year period ending in 1922 for which census data on customers were collected there was an increase of more than 500 per cent in the number of customers.

When electricity first came into use in the early eighties, it had to compete with gas, first for illumination and later for industrial uses. The much greater convenience of electricity for lighting gave the early central stations an advantage in securing that business and the early managers of electric utilities appear to have considered the lighting market as the goal of their activities. Many central stations for some time had little or no daylight load and as late as 1907, many of them were much embarrassed when the high efficiency lamps made their appearance and cut down the consumption of electricity even though there had been a substantial increase in the number of their customers. Increased customers had meant increased cost of plant and increased cost of operation, but with each customer using high efficiency lamps and hence consuming less energy it meant inefficient use of the plant. The introduction of high efficiency lamps, therefore, stimulated the industry to develop a power load. In 1922 but 23.3 per cent of the total output of electric energy was sold for light, which included commercial light, street lighting, domestic light, and power; 44.4 per cent was sold for power and 32.3 per cent was sold to other electric companies including electric railways. The per capita consumption of electrical energy in

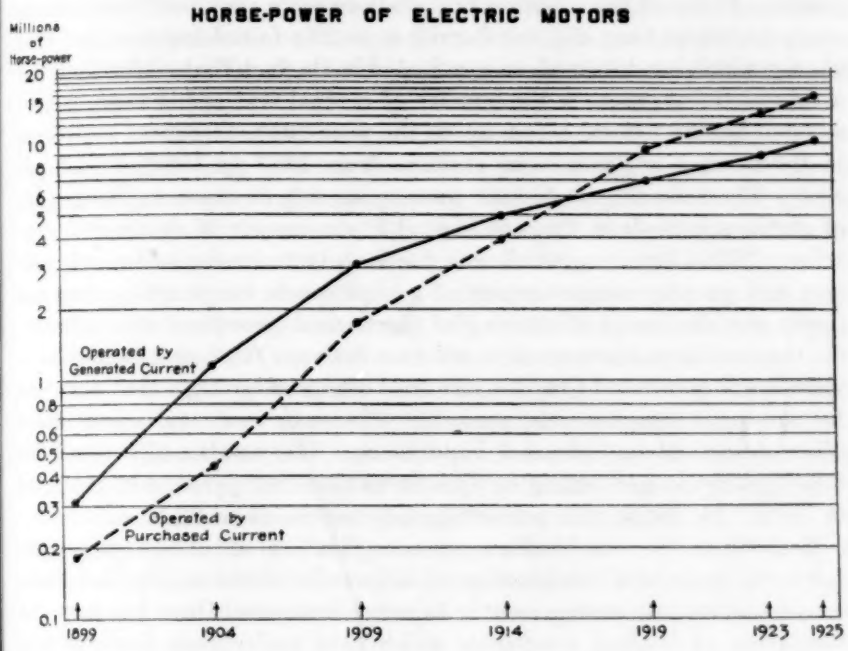
1922 was 149 kilowatt hours for light, while for power it was 290 kilowatt hours.

While electric motors are much older than the electrical industry, they depended for their supply of current upon primary batteries, consuming zinc, costly chemicals, etc., and could consequently have no commercial significance in industry. Some important factors in the development of the electrical industry were to change this condition. The perfection of the dynamo and its use also as a motor when electrical energy was supplied to it was an item of prime importance. About the middle or late eighties it was clear that alternating current was to be of much significance. It wrought revolutionary changes in the electrical manufacturing business and it laid the foundation for the use of electrical energy, not only in the manufacturing plants located near a central station, but also in those located between two hundred and three hundred miles distant from the point of generation. All of the early electrical manufacturers had originally built equipment to generate and use direct current. The proportion which the kilowatt capacity of alternating current generators formed of the total kilowatt capacity increased from 67.8 per cent in 1907 to 96 per cent in 1922. This represents the advantages which alternating current has over direct current in connection with long-distance transmission and transformation from one voltage to another.

In attempting to sell power to industries, central stations were faced with the problem of being able to give assurance of continuity of service. This, in turn, meant that a central station was compelled to have sufficient stand-by plant to provide against emergencies, or to be interconnected with other plants which could furnish it with power in case of a breakdown. Very fortunately, the use of alternating current making possible the transmission of electricity over long distances in turn made the plan of interconnection feasible. Thus industries could depend upon service even from central stations which were dependent upon water power available only certain months in the year or during years of ample rainfall. Such central stations were able to prevent a shutdown by being interconnected with central station steam plants.

The degree to which the manufacturing industries have electrified and the extent to which they have purchased electrical energy from central stations is of interest in this connection. The first census for which data are available on the horse power of electric motors in relation to the total installed primary power in manufacturing industries was that of 1899. In that year, the total horse power of electric motors was 4.9 per cent of total installed primary power. For the census of 1925, it was 73 per cent. Of the total installed primary power used in 1899 but 1.8 per cent of it was purchased electricity, while 3.1 per cent

was current generated by the industries. By 1925, 44.3 per cent was purchased, while but 28.7 per cent was generated within the industries themselves. The horsepower of the motors in manufacturing industries run by purchased current compared with the horsepower of motors run by current generated within the industries is shown graphically in the accompanying diagram.[1] It will be seen that industries purchased more electrical energy than they generated for themselves for the first time during the war. This was due in part to the fact that under the



orders of the Fuel Administration some industries found it almost impossible to obtain coal. In other instances, the business was expanding in such an abnormal fashion that business men turned to the central stations for electrical energy, because they did not have time to provide it for themselves and because they assumed that within a year or two the peak demand for such service would probably be passed. But this diagram shows also that the tendency for industries to purchase electricity rather than to generate it for themselves was merely accelerated by the war.

With large scale generation of power and long distance transmission

[1] Diagram (brought down to date) from "Problems in the Development of a Superpower System," by C. O. Ruggles in *Harvard Business Review*, January, 1924.

came a chain of events which made it inevitable that the power and light industry should extend beyond the limits of municipalities and spread out over wide areas ignoring state boundaries. American industries know no state lines. The provision of the federal constitution which prohibits any tariffs among the states has brought about an industrial and commercial development in this country which, in turn, is destined to have an important effect upon the power business itself.

Economists are familiar with the fact that big power companies and holding companies all over the country have purchased small isolated plants. Many of the small central stations were very inefficient, and in many instances they did not furnish a twenty-four-hour service. The change which has taken place is reflected in the fact that while there was a substantial increase in the number of central stations in every period covered by the federal census up to the year 1917, there was a decrease in the number of commercial stations from 1917 to 1922 of 10.7 per cent. The following statement concerning this decrease in the number of stations is made in the last United States census of electrical industries: "This decrease, which was due largely to increased interconnection and greater concentration of generation in large units, does not imply any decline or slackening of the normal growth of the industry. On the contrary, the numerical increase between 1917 and 1922 in kilowatt hours generated (14,014,256,980) was greater than that recorded for any preceding five-year period." The same tendency is seen in another statistical fact of much importance. The number of central stations having no generating equipment was but 9.7 per cent of the total in 1912. By 1922, this percentage had increased to 28.3.

Sometimes the combination or consolidation of utility properties takes the form of a combination of different utilities in the same community under one management. In other instances, there has been the formation of holding companies which have undertaken financial and operating functions. In some instances, a group of more or less related utilities in one section of the country are controlled in this manner. In others, widely scattered properties which have no relationships whatever to each other are brought under one management. There are also companies which purchase control of various utilities and then issue their own securities which are based upon collateral security. They thus bring about a distribution of risk, but they make no contribution whatever to the problems of management.

The growth of the electrical industry, some phases of which have been very briefly sketched, has helped to bring about the electrification of industry and the growth of the electrical industry, in turn, was made possible by the wider market for electricity which the electrification of industry helped to supply. The prospect of greater economic possibili-

ties for the electrical industry brought about a keen interest on the part of the public in utility securities, thus stimulating promoters and speculators to enter this field.

The operation of the power industry on a large scale, starting in local consolidations and later developing into vast interconnected systems, offered the opportunity for the development of the public utility holding company which is such a prominent factor in the public utility field at the present time. It would not be possible within the limits of this paper to present an adequate discussion of the strength and the weaknesses of holding companies in this field. Moreover, economists are sufficiently familiar with both the advantages and the disadvantages of these organizations to make it unnecessary to do more than to mention a few of them.

These holding companies are able to bring about savings, for example, in financing, construction, mass purchasing, expert services in engineering, accounting, management, and improvement of the quality and reliability of the service, and in making it available on a twenty-four-hour basis even to rural areas. On the other hand, local operating companies which are controlled by holding companies are not in a position to make competitive contracts. Nor does the public have adequate means under present regulation of knowing the terms of the contracts between the holding company and the subsidiary. This is strikingly true in the instances where the holding company is incorporated in a different state from that in which the subsidiary operates or where there has been a pyramiding of a series of holding companies by means of which each holding company controls the one just below it. In the latter instances, the operating company which serves the community is very far removed from the top holding company which really controls its policies and dictates the terms of the contracts which are made with it.

There are two ways of obtaining a profit out of public utilities. One is through the efficient operation of these properties; the other is through financial manipulation of utility securities. Our system of regulation should be such as to encourage the former and to make the latter difficult to accomplish. The savings made possible through scrapping of small utility plants and the linking of communities served by them into a chain of companies served by very large generating stations have offered opportunities for the effective use of both of these methods.

It would appear that that portion of the power industry which cannot run away from its job, that is the local operating company, would be embarrassed if the pyramiding of utility securities would ultimately result in shaking the confidence of the investing public in public utility

securities. This possible danger has been pointed out by some of the committees of the Investment Banking Association, and by those who make analyses of utility securities for the benefit of the investing public. One such statement taken from an investment manual is as follows: "The merits of large combinations . . . . are substantial but the policy of such companies cannot be endorsed when it leads to suppression of public reports for individual properties, and an invitation to investors to base their judgments upon aggregate results only. This holds true with reference both to the securities of individual properties and the collateral or debenture issues of the controlling concern. The objection from the standpoint of individual mortgage issues is obvious, for the investor in such securities is left almost entirely in the dark, excepting as he is told that the controlling interests seem to be in good condition. But it is true also that an investor in securities of the controlling company is quite unable to form an accurate idea of the situation. Correct analysis requires that the investor should be informed as to results by each separate property from year to year, being thus enabled to tell how many of the properties are in a strong, how many in a weak position; how many are progressing and how many are losing ground."

The chairman of the Wisconsin commission has recently said that the late agitation against power companies has been due in part to the competitive overbidding and gross overpayment for properties. Likewise, the chairman of the New York commission recently made the following statement: "The question which has aroused public comment and certainly has proved of great concern to public service commissions everywhere is the exorbitant prices that have been and are being paid by holding companies for properties they have been acquiring. In many instances, these prices bear no possible relation either to the reproduction value of the property acquired nor to its potential earning possibilities."

In the regulation of the power and light utilities, we are confronted with the problem of obtaining the benefits of the new order without permitting certain abuses. The existence of a twilight zone between state and federal jurisdiction makes it difficult if not impossible to secure effective regulation of certain phases of the power business and it doubtless encourages certain activities on the part of promoters and speculators in which the public has a vital interest. There is no longer any debate on the question of the inability of the municipality to control the affairs of a big utility which serves several hundred cities. The question which is now in the foreground is whether state regulation is adequate or whether we must have in addition some form of federal control.

There are two extreme views concerning the role of state commissions in the scheme of utility regulation. One view is to the effect that these

commissions have utterly failed in their attempts to regulate public utilities, while the other is that these commissions are entirely adequate to regulate the business of utilities other than railroads and that it is entirely unnecessary to provide federal regulation of any sort within the field. A careful analysis of the situation will show that neither of these views is tenable.

There is no rhyme or reason in the arrangement whereby forty of the state commissions consist of three members each. "Style" or "custom" appears to have brought about this uniformity. There is no such uniformity in the magnitude of the problems which confront these various commissions. In some jurisdictions the membership should be increased or, at least, the technical staff should be much enlarged. The technical staffs of too many of the state commissions are wholly inadequate. Not only should the number of experts serving the commissions be increased but there should be a larger number of them who understand the complex economic and business problems which have become very important since the organization of these commissions. Experts serving the commissions should be better paid and given assurance of an opportunity to have a satisfactory career in such work. The commissioners themselves are underpaid. Their average salary is about $5,000. One commission pays salaries of but $2,000 to those members of the commission other than the chairman. Only three commissions in the country pay a salary which is anything like an adequate remuneration for men of ability. Moreover, the term of the commissioners is too short and while reappointments or re-elections occur, there is not sufficient continuity of personnel in these bodies to enable them to serve the public effectively. In a number of instances, the commissions have no control over most of the public utilities other than railroads, and in other instances where their jurisdiction does cover all utilities, their power to regulate them is very definitely circumscribed.

If, then, the regulation of utilities by state commission has not been as effective as it should have been, the reasons already suggested go far in furnishing the explanation. Many of the state commissions have performed very good service and some of them have done excellent work.

Attention may now be turned to the other claim, that the state commissions are adequate to the task of regulating utilities other than carriers and that no federal agency need be brought into the picture. Those who hold this view frequently point out that since less than 10 per cent of the total electrical energy generated crosses state lines, there is no justification for the entry of the federal government into this field. It is necessary to examine somewhat closely the facts concerning the interstate movement of power if the significance of the problems which it presents is to be understood.


ME.
N.H.
VT.
MASS.
R.I.
CONN.
N.Y.
PA.
DEL.
MD.
VA.
W.VA.
N.C.
S.C.
GA.
FLA.
OHIO
KY.
TENN
ALA.
MISS.
LA.
MICH.
IND.
ILL.
WIS.
MINN.
IOWA
MO.
ARK.
TEXAS
N.D.
S.D.
NEB.
KANSAS
OKLA.
MONT.
WYO.
COL.
N.M.
IDAHO
UTAH
ARIZONA
WASH.
ORE.
NEV.
CAL.

It is true that of the whole amount of the electrical energy generated in the United States, only 9.6 per cent of it crossed state lines in 1926. This fact is brought out in the study on interstate transmission of power made by the Harvard Bureau of Business Research. However, this percentage for the entire country does not tell the whole story. Further examination of the facts revealed in this study shows that the interstate business is of much importance in a number of areas throughout the country. The Harvard study discovered 453 transmission lines in existence in 1926. The location of these lines is shown on the accompanying map.[2] There is no reason to assume that the concentration of the generation of interstate power to certain regions of the country in 1926 as shown in this study will not be developed in other sections within the comparatively near future and possibly to an even greater degree. It is not possible to determine from this study, which was for the single year of 1926, the rate at which the interstate business of utilities is developing. Some information was collected, however, which throws some light on this phase of the matter. Dates for the establishment of interstate transmission lines were requested. The replies to this question are interesting. The rate at which interstate lines seem to be multiplying and the voltage at which the transmission is being carried appear to be of some significance. The Harvard study shows that of these 453 interstate transmission lines, only 164 were in operation in 1920, 16 were installed in 1921, 14 in 1922, 26 in 1923, 19 in 1924, 54 in 1925, and 79 in 1926. In other words, at least 33.6 per cent of all of these interstate lines was placed in operation during the three years ending in 1926. Dates of installation were not given for 81 of the transmission lines reported. If these are left out of account, over 38 per cent of those reporting was established during the three years ending 1926. Moreover, while there have been fewer lines of low voltage installed since 1920, the high voltage lines are on the increase. One hundred thirty-five high tension lines were put into operation during the three years ending in 1926. Of all the interstate power transmitted in 1926, 27.75 per cent was transmitted at a voltage of 33,000 or less, while 72.25 per cent of it was carried at a voltage of over 33,000.

The foregoing facts indicate that already interstate transmission of electrical energy, while not large when compared with the total generated in the United States, is of importance in certain sections of the country and will probably be of much greater importance within the near future. Moreover, a recent decision of the United States Supreme Court is to the effect that a state may not regulate rates for electricity

[2] Reproduction of map in report (*Bulletin No. 68*) by Harvard Bureau of Business Research on "Interstate Transmission of Power by Electric Light and Power Companies, 1926."

which enters into interstate commerce even though it be a relatively unimportant part of a central station's business. This decision may be better understood if some attention is given to two of the earlier decisions which are cited in this case.

The first of these is that of the *Pennsylvania Gas Company* v. *Public Service Company* decided in 1920.[3] In this case, the gas company transmitted natural gas by a main "pipe line from the source of supply in Pennsylvania to a point of distribution in a city in New York which it there subdivided and sold at retail to local consumers supplied from the main by pipes laid through the streets of the city. In holding that the New York Public Service Commission might regulate the rate charged to these consumers, the court said that while a state may not 'directly' regulate or burden interstate commerce, it may in some instances, until the subject matter is regulated by Congress, pass laws 'indirectly' affecting such commerce, when needed to protect or regulate matters of local interest; that the thing which the New York commission had undertaken to regulate, while part of an interstate transmission was 'local in its nature,' pertaining to the furnishing of gas to local consumers, and the service rendered to them was 'essentially local,' being similar to that of a local plant furnishing gas to consumers in a city; and that such 'local service' was not of the character which required general and uniform regulation of rates by congressional action, even if the local rates might 'affect' the interstate business of the company."

The second decision is that of the so-called Kansas Natural Gas Company decided in 1924.[4] In this case, the company, whose business was principally interstate, transported natural gas by continuous pipe lines from wells in Oklahoma and Kansas into Missouri, and there sold and delivered it to the distributing companies which then sold and delivered it to local consumers. In holding that "the rate which the company charged for the gas sold to the distributing companies—those at which these companies sold to the local consumers not being involved—was not subject to regulation by the Public Utilities Commission of Missouri, the court said that, while in the absence of congressional action a state may generally enact laws of internal police, although they have an indirect effect upon interstate commerce, 'the commerce clause of the Constitution, of its own force, restrains the states from imposing direct burdens upon interstate commerce,' and a state enactment imposing such a 'direct burden' must fall, being a direct restraint of that which in the absence of federal regulation should be free." The court further maintained "that the sale and delivery to

[3] 252 U. S. 23, P. U. R. 1920E, 18.
[4] 265 U. S. 298, P. U. R. 1924 E, 78.

the distributing companies was 'an inseparable part of a transaction in interstate commerce—not local but essentially national in character —and enforcement of a selling price in such a transaction places a direct burden upon such commerce inconsistent with that freedom of interstate trade which it was the purpose of the commerce clause to secure and preserve."

The recent decision of the Supreme Court concerning the interstate transmission of electricity to which reference has been made is that of the *Public Service Commission of Rhode Island* v. *the Attleboro Steam and Electric Company*, decided in January, 1927.[5] The Rhode Island Public Utilities Commission attempted to raise the rates for electricity furnished by the Narragansett Electric Lighting Company at Providence to the Attleboro, Massachusetts, Steam and Electric Company. The Rhode Island Commission ordered this advance in rates on the ground that the business was being done at a loss and was burdening Rhode Island consumers for the benefit of those in Massachusetts. The commission contended that its action was in harmony with the decision of the United States Supreme Court in the Pennsylvania Gas case in that its action affected interstate commerce only incidentally and indirectly. The interstate transmission of the Narragansett Electric Lighting Company was but 3 per cent of its total business. But the Supreme Court held that this case was ruled by the Kansas Gas case rather than by the Pennsylvania Gas case. In this decision it was said: "It is immaterial that the Narragansett Company is a Rhode Island corporation subject to regulation by the commission in its local business, or that Rhode Island is the state from which the electric current is transmitted in interstate commerce, and not that in which it is received, as in the Kansas Gas Company, case *supra*. The forwarding state obviously has no more authority than the receiving state to place a direct burden upon interstate commerce. *Pennsylvania* v. *West Virginia*, 262 U.S. 553, 596, 67 L. ed. 1117, P.U.R. 1923 D, 23, 43 Sup. Ct. Rep. 658, 32 A.L.R. 300. Nor is it material that the general business of the Narragansett Company appears to be chiefly local, while in the Kansas Gas Company case, *supra*, the company was principally engaged in interstate business. The test of the validity of a state regulation is not the character of the general business of the company, but whether the particular business which is regulated is essentially local or national in character; and if the regulation places a direct burden upon its interstate business, it is none the less beyond the power of the state because this may be the smaller part of its general business. Furthermore, if Rhode Island could place a direct burden upon the interstate business of the Narragansett Company because this would

[5] 273 U. S. 83, P. U. R. 1927B, 348.

result in indirect benefit to the customers of the Narragansett Company in Rhode Island, Massachusetts, could, by parity of reasoning, reduce the rates on such interstate business in order to benefit the customers of the Attleboro Company in that state who would have, in the aggregate, an interest in the interstate rate correlative to that of the customers of the Narragansett Company in Rhode Island. Plainly, however, the paramount interest in the interstate business carried on between the two companies is not local to either state, but is essentially national in character. The rate is, therefore, not subject to regulation by either of the two states in the guise of protection to their respective local interests; but, if such regulation is required, it can only be attained by the exercise of the power vested in Congress."

From the statements of the court in this recent decision it would appear that even state regulation as recognized in the Pennsylvania Gas case would doubtless be permitted to apply only within very narrow limits. If, therefore, the Massachusetts commission were to attempt a reduction in rates which would make it impossible for the Attleboro Company to pay the interstate price charged by the Narragansett Company without selling at a loss, the protection afforded under the fifth and the fourteenth amendments would probably be invoked by the utility. Moreover, under decisions of the Supreme Court, a state commission has no control over unreasonable charges of a foreign parent company dictating the terms of a contract even with a subsidiary which is under the control of that state commission. It cannot refuse to allow payments made by the subsidiary in such a case unless fraud can be shown.

But there is another phase of the power and light industry which presents some difficult questions of regulation both for the states and for the federal government.

It is clear that a parent or holding company which has control over the affairs of operating companies located in a dozen or more states may be vitally affecting the interests of the consumers of these companies although the operating companies might be engaged in generating electrical energy which would be consumed wholly within the state where generated. Moreover, there are many holding companies which maintain that they are not public utilities. In the absence of federal legislation on this subject they could probably maintain their point of view in the courts.

Such relationships are of course vital when foreign holding companies control the operating expenses, the financing and the management policies of operating companies which are given franchises to furnish public utility service to communities within a given state.

From an economic and business point of view it is desirable that the

present tendency toward large units in the electrical industry should continue. There is no blinking the fact that the economies which some parent companies have made possible in the service which they have rendered to their subsidiaries have been substantial. But there should be some way of determining the contribution which parent companies make to the efficiency of operation of subsidiary companies and this should be taken into consideration in gauging the rate of return which is to be allowed.

In our efforts to give private initiative full sway in the public utility industry, we have really taken away much of the incentive toward efficiency in management through utility regulation. Fortunately, there are a few state commissions to which this statement does not apply.

In the preparation of an article four years ago, I checked over the decisions of the state commissions to determine the extent to which they were recognizing efficiency in management in regulation.[6] I found at that time a limited number of commissions that were taking efficiency in management into consideration. A study of these decisions shows that some of our commissions believe that the rate of return should not be uniform for all companies, but should be measured in each case by the efficiency of management, and the character of the service, and that a utility rendering excellent service at low rates is entitled to reap the reward of its enterprise by being permitted to earn more than the normal rate of return. Likewise, that one rendering very inefficient service should not be permitted to advance its rates in order to obtain a normal rate of return until it had improved its service. Soon after the establishment of commission regulation in Wisconsin, for example, it was maintained that in fixing rates for public utilities, consideration should be given to extraordinary efforts on the part of management and that "an allowance should be made for it in the way of extra profits."[7]

Unfortunately, the commissions which hold this theory are decidedly in the minority and even some of them which endorse the theory are unable to carry it out in practice because of the inadequacy of their staffs of technical experts. There is a tendency on the part of a majority of our state commissions to reduce rates to a certain level for all utilities in a given class regardless of the efficiency with which they may be managed or the character of service which they render. The general rule is to reduce rates if the management succeeds in making

[6] "Problems of Public Utility Rate Regulation and Fair Return," *Journal of Political Economy*, October, 1924.

[7] Wisconsin R. R. Commission Rept. 623, 725 (1909). For further reference, see note p. 557 of article by the author on "Problems of Public Utility Rate Regulation and Fair Return," *Journal of Political Economy*, Vol. XXXII (October, 1924).

such savings in cost of operation as increase noticeably the revenue of the company.

We have doubtless drifted into this unfortunate position because we have been slow to attempt to apply any measuring rods to efficiency in management and to the character of service rendered by a public utility. Our reluctance to give more emphasis to this phase of regulation has doubtless been due to an inbred fear that it might lead to an attempt on the part of the commissions to substitute their judgment for that of the management. If this were undertaken it would be effectively checked, for the courts, including the United States Supreme Court, have ruled that regulation may not be substituted for management.

Surely it will not be urged that there can be no dependable measuring rods by which the efficiency of management or the character of service may be gauged. Dependable comparative data along these lines are now being used very effectively even at long range by the management and engineering organizations in control of their various subsidiaries, and something worth while along this line is also being done by a limited number of our state commissions. Some parent or holding companies make very careful studies of the efficiency with which their various subsidiaries are managed and these facts are taken into consideration in making promotions. Needless to say this produces very beneficial results. The same principle should be followed by the regulating commissions.

The upheaval of prices which came as a result of the World War brought about a situation in which much of the time of managers of the utilities and of commissions has been spent wrangling over valuation. Too little time has been given to an attempt to consider the character of the service and the significance of costs of operation which would reflect efficiency or inefficiency in management. Items in costs of operation which have been given scant consideration, if capitalized, would be of more significance than the difference resulting from the use of a particular formula used to find so-called fair value. Moreover, time spent in careful studies along these lines would stimulate better management, improve the character of service, and it would also enable commissions to determine the extent to which a premium or a penalty should be resorted to in gauging the rate of return which a public utility should be allowed. At present, we are attempting to regulate profits, and we are encouraging the utilities to make the rate base as high as possible and to permit costs of operation to absorb sufficient revenue to keep the rate of return at a level which will not give rise to a demand for a rate reduction.

It does not seem reasonable that parent or holding companies which maintain that they are not public utilities should control the operating

expenses, the financing, and the management policies of public utility operating companies without being subject to regulation at least in so far as such activities are concerned. A local operating utility company may be required to keep its accounts in such a manner that a state commission may determine the income and expenditures for different phases of its business. But if this local operating company makes a payment of a certain percentage of its gross receipts to a foreign parent company, then the state commission is helpless in going into an examination of the character and value of the services for which these payments are made. As has been suggested this might prevent effective regulation of rates by state commissions in cases where a local company received all of its energy through an interstate wholesale supply.

It may be repeated that the foregoing argument does not mean that utility commissions are to play the role of directors of utility companies and thus to supplant management by regulation. It does mean, however, that some attempt should be made to determine certain standards by which the efficiency or the inefficiency of management may be measured. Management should be given a comparatively free hand but it must also be held responsible for results. If the economies made possible by holding or management organizations are real, it ought to be possible to meter or to measure them at least approximately. At present, it is not possible to know in many instances whether the payments made by a subsidiary are at all in line with the contributions made to the management by the holding company. There is one outstanding advantage of the present plan of reducing the rates of all utilities to a certain level regardless of efficiency or inefficiency in management. It does not require much intelligence to carry on such regulation. And unless the public is willing to recognize the need for high caliber men as commissioners aided by adequate technical staffs including more men who understand the economic and business problems involved, there will be little hope for success along the lines which have been suggested in this paper.

To summarize very briefly, it would appear that: (1) The industries of this country are rapidly becoming dependent upon central electric stations. Our policy of immigration will accelerate the substitution of electric power for unskilled labor in many ways. The ease with which electrical energy can be controlled makes such a substitution possible not only for laborious tasks but also for many minor, tedious, automatic processes. With electric power a factor in American manufacturing, equitable regulation of the power industry is of far more importance than it was when it was confined merely to the field of lighting. In other words, electricity in the early stages of its development was of significance primarily in the field of consumption. Now, it is a vital

element in the field of production. Indeed, power rates may have an influence on industry somewhat similar to that which has been exercised by freight rates. This, in turn, will have an important bearing on regulation.

(2) The economies and the improvements in the character of the service which have been realized through large-scale generation, long-distance transmission, and centralized financing and management, have been substantial and we should adopt a form of regulation which will foster and encourage further accomplishments along these lines but which will also reward parent companies in accordance with the service which they render to their subsidiaries.

(3) The development of the electrical industry and its vital relation to American industry has brought about a situation whereby many problems in public utility regulation are beyond the jurisdiction of the states. Moreover, the states have been estopped by the United States Supreme Court from regulating the interstate transmission of power by companies within their various jurisdictions even though that part of the business is as little as 3 per cent of a central station's total business. It is very doubtful, too, whether a state commission can effectively regulate local rates for electricity if all the energy or possibly a major portion of it has, in turn, been purchased at wholesale in interstate commerce. It is clear, too, that a state has no control over payments made by an operating company for certain services rendered to it by a foreign parent company.

(4) Up to the present time, only a limited number of our state commissions have been adequately financed and provided with sufficient expert assistance. Partly for these reasons but primarily because we have not squarely faced the issue, too little attention has been given to efficiency in management and to the character of service in determining the rate of return which a public utility should be permitted to receive.

If the foregoing analysis is sound, it would appear that the following conclusions are justified:

(1) State commissions should be materially strengthened, and their jurisdiction extended so that in all states they will have the power to regulate utilities other than railroads. Moreover, the power to regulate these utilities, once jurisdiction over them has been extended, should not be circumscribed as it is in some states at the present time. Many of the regulatory problems of this industry require that all of the light of local intelligence should be focused upon them. Therefore, the bulk of the business of regulation of these utilities will doubtless continue to be in the hands of the state commissions.

(2) Federal regulation is necessary to cope with the problems

which are clearly beyond the control of the states.[8] While it is evident that we should have federal control of certain phases of the power business, it is not so clear what form of federal control would be most effective. There have been proposals that the state commissions might act as federal agencies in the regulation of affairs beyond the control of a single state. While this proposal has some merit, it is not easy to see how disputes between two state commissions over the transmission of electrical energy could be amicably settled without the intervention of some federal agency. Possibly the Federal Power Commission which already has limited power in this field could be reorganized and given ample authority to enable it to serve in such a capacity. The Transportation Act of 1920 gave legal sanction to co-operation between the states and the federal government but in this case the Interstate Commerce Commission has sufficient power to bring recalcitrant states into line on what may be demanded by the interests of interstate commerce. State compacts have also been suggested as a means of regulating interstate power problems. But this would be very slow and cumbersome and would be unsuited to cope with the everyday problems of these dynamic utilities.

Objection will, of course, be raised to the creation of any more regulating commissions and especially of federal commissions. The state commissions themselves will oppose the creation of federal commissions and yet the question may be raised whether the existence of federal regional commissions which can control the activities of the utilities within the twilight zones between the state and federal jurisdiction may not have the wholesome effect of keeping many utility problems within the jurisdiction of the state commissions. Moreover, the establishments of some federal regional commissions would probably stimulate the states to improve the character of their commissions in a field in which they have a real opportunity to continue to do the major work of regulation, provided they deserve to do it. Objection will also be raised to the creation of federal regional commissions on the theory that it simply means more red tape. But it is not easy to understand how utilities which have expanded their kilowatt capacity in a twenty-year period by 1100 per cent, output by 1500 per cent, and increased their own employees by 400 per cent, can be regulated by the same number or type of agencies which were in existence when the industry was much less complex than it is at the present time. Moreover, these utilities appear to be pursuing a somewhat different course from that followed by the railroads in attempting to secure large numbers of highly trained

[8] I am indebted to Donald C. Power, Ohio State University, for data concerning this subject in an unpublished thesis for the master's degree at Ohio State University in 1927, on the subject of *Future Interstate Regulation of the Electric Light and Power Industry*.

men. If brains are needed and needed in greatly increased numbers within the industry itself, it would appear that an increase both in the number and in the quality of the commissions would also be a normal development.

In view of the fact that the business of the electric power and light utilities involves many technical problems which should be studied at close range, it would appear that federal regional commissions would be superior to a highly centralized control such as we have developed under the Interstate Commerce Commission for Railroads. It is of some interest that the Interstate Commerce Commission in its annual report for this year has requested Congress to exempt the operation of electric railways from its jurisdiction, except those electric roads which exchange standard freight equipment with steam roads and join in through interstate freight rates with steam roads. If it appeared wise to have an administrative body to which appeals could be made from federal regional commissions, rather than to have many technical questions submitted to the courts, a federal public utilities commission could be limited to cases coming to it on appeal from the federal regional commissions. Whatever federal agencies are proposed for the control of utilities other than railroads deserve to be given some such study as was given to banking by the National Monetary Commission previous to the adoption of the Federal Reserve Banking Law. The time is overdue to begin such a study which should lead to the strengthening of the state commissions and to a constructive program of federal regulation of those activities of power utilities over which the states can have no jurisdiction. Regulation, both by the states and by the federal government, should give some promise of encouraging initiative in management and indeed should give management a fairly free reign, but both operating companies and parent organizations should be held responsible for results and allowed a rate of return in accordance with the contributions which they make toward efficiency in management and toward the maintenance of satisfactory service.

AN INDUCTIVE STUDY OF PUBLICLY OWNED AND OPERATED VERSUS PRIVATELY OWNED BUT REGULATED ELECTRIC UTILITIES[1]

By H. W. Peck

Syracuse University

This paper is a summary of an inductive study of the Ontario Hydro Electric System and certain large interconnected private electric systems in New York State. The study was a co-operative undertaking by Joseph Boyd Reid, a consulting engineer from New York City, Dean Louis Mitchell of the School of Applied Science of Syracuse University, Professor Ralph Dewey of the Department of Economics of Ohio State University, and myself. Of course, I do not hold my colleagues responsible for agreeing with all the opinions expressed in this paper. Only the material from which these generalizations are drawn was the common results of our co-operative research.

For reasons which there is not space to enumerate the Ontario and western New York fields were selected as comparable representatives of public and private operation. Two sets of comparisons were made, one between thirty-five New York distributing companies and thirty-three Ontario municipal distributing companies, and another between eight large private companies in western New York and the thirteen municipals of the Niagara System in Ontario. Also wholesaling units on opposite sides of the border were compared.

The choice of situations to compare was made in connection with the question of comparative advantage. If electric corporations in both sections were operated under the same organization and control and according to the same sales policy, which section would have a comparative advantage or a lower cost of production? This led to an analysis of the different factors that enter into the cost and the sales price of electricity. The cost factors are based on geological, technological, social and external economic conditions, and the price factors, in addition to these, are based on internal economic conditions such as the form of organization of the industry and the character of the sales policy.

[1] This paper should be considered a preliminary and not a final report of the investigation which it summarizes. The aim of the writer is to present suggestive ideas that may serve as a starting point for more thorough and complete co-operative investigations by engineers, economists, accountants, and statisticians. There is also a feeling among our research group that the method chiefly used, comparison by kilowatt hours, has serious limitations; so that data that point toward a trend or a mathematical conclusion cannot be accepted finally until several other methods are employed, the results of which are found to correlate positively to a valid degree.

The factors that enter into cost may be briefly enumerated:

1. The size of the generating plant—large or small.
2. Generation by steam or hydro.
3. The age of the plant—an early or late design.
4. The location of the plant—whether acquired at large cost or small cost.
5. The power factor.
6. Capital costs based on rate of interest.
7. Sparsity or density of population in area served.
8. Distance from generating plant.
9. Percentage of industrial power to total electric service.
10. Market or load factor.

The factors that determine the sales price include, in addition to the above ten internal economic factors, the following:

11. Private management for profit versus public management for service.
12. The character of the sales policy.

Of these factors the first five may be called geological and technological. Factors six to ten inclusive are social and external economic factors, and eleven and twelve internal economic factors.

If any two plants were equal in all these respects, or if two generating plants were located on equally good hydro sources, were of the same kind and period of design, of the same size, paid the same sum for land and right of way, and then sold power to distributing companies in cities equally distant from the generating plants, approximately equal in population, with industries of the same kind and size, then the two situations would be 100 per cent comparable. If one company was privately owned and operated and the other publicly owned and operated, any difference in the rates charged the consumer might be due to the remaining factors, the form of organization or the financial and sales policy.

From the point of view of management the New York and Ontario situations compared offer a complete contrast. In Ontario we find an independent governmental agency operating under the mandate to supply electricity to the consumers at cost and equipped with sufficient authority over the municipal distributing units to determine rates. In New York we find a series of private companies operating for profit under the supervision of a Public Service Commission which is also authorized to determine rates, but which is inadequately staffed and which exercises no such thorough-going supervision as the Ontario Hydro Commission.

In addition to the differences in management there are other differences which prevent the two fields from being entirely comparable. The Ontario municipals have the advantage of central administration and

control. They also have a larger percentage of energy derived from hydro sources, which is a differential in their favor, since hydro generation is cheaper than steam generation, although the difference is said to be decreasing. The New York companies have the advantage of widespread interconnection, which may raise the load factor and lower the unit cost of production. The New York companies have the advantage of a denser and more highly industrialized market. The greater density reduces the unit cost of transmission, and the industrial market reduces the average cost per kilowatt hour, because industrial power is cheaper to generate, transmit, and distribute than domestic service. In general we may say that the advantages of the different systems tend to offset each other sufficiently to warrant comparisons.

Assuming, then, that the two situations are similar from the point of view of comparative advantage, one may examine the contrasted areas as to quality of product, cost of production, and the price or rate charged the consumer. Fortunately, since the kilowatt hour is a definite unit of product without varying values, the problem narrows down to a question of costs and revenues.

The accounting system used included the following heads:

I. Operating expenses
   a. Generation and transmission
   b. Distribution
   c. General and miscellaneous
   d. Taxes

II. Interest and other deductions from gross income

III. Net income
   a. Dividends
   b. Sinking funds
   c. Surplus

The total costs per kilowatt hour of the thirty-five New York companies averaged 1.41 cents; the thirty-three Ontario municipals, 1.21 cents. The average cost of the eight New York companies was 1.15 cents; of the thirteen Ontario municipals, 1.44 cents. Thus the total cost per kilowatt hour of the contrasted separate companies and municipals was not far apart. The lower cost of the eight New York companies was due to the fact that wholesale rates were averaged to some extent in with retail rates. The cost of the Ontario municipals consisted entirely in the expense of providing retail services. The interpretation of the rather numerous cost tables was that total costs per kilowatt hour were somewhat lower in Ontario (1.41 to 1.21).

After breaking up the total expense into constituent items it seems that there is no great difference in efficiency as between the two groups in respect to such expense items as generation and transmission expense, distribution expense, and interest charges. The Ontario System ap-

pears to generate and transmit at somewhat less expense. The private companies have slightly higher general and miscellaneous expenses. Also the private companies pay higher taxes, more than twelve times as much per kilowatt hour as the Ontario municipals, or to be exact, the New York private companies pay .0925 cents per kilowatt hour and the Ontario municipals, .00723 cents per kilowatt hour. On the other hand, the Ontario cities were allowing more for depreciation than the New York companies. The amount in cents per kilowatt hour was on an average, New York, .091, and Ontario, .119. Also the public received a net gain through the operation of the Ontario System in respect to such items as cheaper municipal lighting rates, and funds added to the public credit in the form of an increase of equity in the hydro generating and transmission system, and through the retirement of local debentures and additions to the local sinking fund. From these various sources in terms of kilowatt hours, the Ontario municipalities collected .268 cents, or almost three times as much as was realized on this side of the border from the .097 cents of net payment in the form of taxes contributed by the private companies.

Turning to the subject of revenues the average revenue in cents per kilowatt hours was as follows:

		Net Revenue
35 New York companies	1.87	.46
33 Ontario municipals	1.35	.14
8 New York companies	1.55	.39
13 Ontario municipals	1.58	.14

Considering the amounts of wholesale power that were averaged in with the sales of the eight large New York companies, it seems clear that the average charges were higher in New York than in Ontario; in the total areas compared the New York revenue per kilowatt hour from all services was about 140 per cent of the Ontario revenue per kilowatt hour. If, however, the average is based entirely on retail sales, the average revenues are as follows:

SALES AND REVENUES OF DOMESTIC AND COMMERCIAL LIGHT, POWER, AND MUNICIPAL STREET LIGHT OF THIRTY-THREE ONTARIO CITIES, AND THIRTY-FIVE NEW YORK PRIVATE COMPANIES

Item	*Selected New York Companies*	*Selected Ontario Cities*
Total kw. hr. sold to consumers*	2,951,234,408	1,029,311,645
Total revenues from consumers' sales	$66,889,950	$13,748,247
Cents per kw. hr.	2.26	1.33
Kw. hr. sales of domestic and commercial light	629,710,262	417,034,325
Revenues from light sales	$35,529,943	$7,866,559
Cents per kw. hr. for light sales	5.64	1.88
Kw. hr. sales of power	2,265,428,345	568,091,941
Revenues from power sales	$25,785,975	$4,958,329
Cents per kw. hr. for power sales	1.13	.87
Kw. hr. sales of municipal street lights	96,095,801	44,185,379
Revenues from municipal street light sales	$5,574,032	$932,359
Cents per kw. hr. for municipal street light sales	5.80	2.09
Percentage of power to all consumers' sales	75.7	55.1

*Including sales of domestic and commercial light, power, and municipal street light.

The average revenues offer a contrast to the data on costs. According to the cost estimates dealing with all services reported, the New York costs were 116 per cent of the Ontario costs. The total retail revenues of the New York companies were 170 per cent of those of the Ontario cities. For domestic and commercial light the New York revenues per kilowatt hour were almost exactly three times as great. For municipal street light the New York revenues were over 270 per cent as large. And for power the average New York revenue was 130 per cent of the average Ontario revenue. These facts offer strong evidence of the greater efficiency of the Ontario system when judged by the standards of service to the consumer.

The method of comparing costs and revenues by reference to the kilowatt hour of energy sold is, however, only one of several methods of comparison. Like other methods it has certain definite advantages and limitations. It has the advantage of making possible a general survey or comparison over a wide area, since it is the method prescribed by the New York Public Service Commission. By reducing to a kilowatt hour basis, one can compare generation and transmission expense, distribution expense, miscellaneous expense, taxes, net income, etc. It must be remembered, however, that the cost or revenue per kilowatt hour method is a mathematical fiction, like that of the arithmetic mean, and is suitable only for general and not for particular application. It is an imaginary figure adapted only for a general calculation or for comparison of conditions over wide areas, and can lead only to approximations.

By the use of this method certain differences of fact are ignored, specifically that the electric companies sell "service" as well as electric energy. By "service" is meant the readiness to supply energy when and in the quantity that is desired. This fact alone invalidates the cost or revenue per kilowatt hour method as a standard of comparing any two specific situations with respect to relative efficiency, unless the social and industrial conditions of both situations are the same. Thus, by way of illustration, two towns in the same system might have the same or similar rate schedules and yet have widely different average revenues and costs per kilowatt hour. For example, take the power rates for Barrie and Owen Sound, towns in the Georgian Bay System in Ontario. Both have the same service charge per horse power per month ($1.00), and the same discount for prompt payment (10 and 10). The energy charge for Barrie is 1.8 cents per kilowatt hour for the first 50 kilowatt hours, 1.1 for the second 50, and .33 per kilowatt hour for all additional. The energy charge for Owen Sound is 1.9, 1.3, and .33. Yet the average revenue per kilowatt hour for power in Owen Sound is 2.21 and for Barrie is .59. Just why the difference in

kilowatt hour average, one could determine only by an industrial survey. There are several possible explanations.

In one place there might be a considerable number of enterprises that used small blocks of power so that they could not get the full advantage of the lowest rate charge. In the other town larger plants might use enough power so that the low energy charge of .33 per kilowatt hour might figure largely in lowering the average. Again the cost per kilowatt hour and hence the revenue might vary greatly on account of the nature of the industry. The cost of a large plant operating continuously for twenty-four hours per day might be little over one-third of that of a plant operating continuously for eight hours and then closing for sixteen. And the power cost for kilowatt hour of the large continuous-operation plant might be less than one-third that of a plant which used power intermittently for eight hours. The higher cost per kilowatt hour in the last two cases would cover the cost of "service" as well as power.

Different methods of comparison, such as that of parallel rate schedules, or monthly bills for the same amount figured in different places, would be more suitable in comparing the efficiency of companies in different towns. This is also a suitable method of comparing rates for lighting in Ontario and New York but it is much more difficult when applied to power rates. The complex industrial situation in New York has produced such a variety of rate schedules that the comparison with Ontario cities is too complicated and technical for any one but a special engineer. And too, how could one be sure that the specific situations are comparable. Power rates in a residential district might be lower because power was off peak. Lighting rates in an industrial section might conceivably be lower because domestic lighting was off peak. One place might be farther from the hydro-generating plant, a fact which would not be shown in the tariff schedules, but would appear in the detailed cost analysis per kilowatt hour.

Our conclusion as to methods is that it is desirable to employ different methods and check them against each other. The revenue and cost per kilowatt hour method is a useful type of mathematical device to compare efficiency over large areas where variations in local production and market conditions tend to cancel each other. But it needs to be checked by other tests and experiments, and the results attained in this way need to be modified if the general character of the areas compared is different. If economic and industrial conditions would average about the same over a wide area, like that of two industrial states, say, New York and Pennsylvania, this form of average might be approximately fair as an index of efficiency. If, on the other hand, this average were applied to two large areas with differing industrial conditions, like two

states, one of which was more largely industrial and the other more largely agricultural, the conclusion would need to be modified to give approximate accuracy. The same cost or revenue per kilowatt hour in the agricultural area would mean greater efficiency. In any case, this form of average could reflect only a general trend, and could not be used to compare the efficiency of plants in separate towns. For that purpose comparative rate schedules and specific bills would be preferable.

Objection, as stated above, has been made to the cost and revenue per kilowatt hour method on the ground that it ignores the cost of rendering service, or the maintenance of equipment and labor which is ready to supply energy in case it is wanted. A large "service" expense must be reflected in large kilowatt hour costs and charges. A parallel apology might be made for high prices by a manufacturer on the ground of heavy overhead costs. The answer to this would be that the chief function of management was to speed up production, increase the ratio of operating to fixed charges, and thus raise the operating ratio. The same answer might be made to the apology for high charges for electricity because of high service charges. Service charges are analogous to fixed expense, and energy charges to operating expense. Thus, the efficiency of an electric utility may be gauged, to a degree, by the ratio of energy charge to service charge, only this test cannot be as rigidly applied as can the operating ratio to manufacturing plants, because in the case of electric utilities the ratio of service to total charges may be due, to a considerable degree, to objective industrial conditions over which the managers of the utilities do not have control. On the other hand, as will be shown later, the sales policy, especially with reference to elasticity of demand and inducement rates, may have much to do with the total volume of energy sales, so that the ratio of energy charge to total charge, may, with proper qualifications, be regarded as a test of managerial efficiency.

How do the average revenues per kilowatt hour in Ontario and New York compare with the studies of specific bills in the two sections? Or, in other words, how do the results of the different methods check with each other? As regards domestic service, the specific bills give almost the same result as the general averages of revenues per kilowatt hour. The New York bills are much higher. Sixty kilowatt hours cost $1.30 in Toronto, $3.60 in Buffalo, $3.65 in Rochester, $3.81 in Syracuse, $4.35 in Utica, and $2.80 in Niagara Falls.

As regards power bills, evidence unfortunately is not complete. Power bills are not comparable unless all the industrial conditions are the same, and it is difficult to find parallel conditions. The limited evidence so far at hand shows the Ontario rates lower, and points toward

the conclusion that the actual rates for industrial power in Ontario are lower, as we had inferred, than would be suggested by the average revenues per kilowatt hour. Although the average ratio of revenues in New York to that in Ontario was 113 to 87, if the blocks of cheaper power sold direct to consumer by the Hydro Commission were averaged in, the rate spread between New York and Ontario would be considerably increased. Definite conclusions in this matter will have to await more complete statistical research.

The comparison of cost and revenues and specific bills opens up the problem of the interpretation of the data. The large spread between the New York and Ontario revenues and the small spread between the costs constitute the problem to be explained.

If one first learns that the charge for domestic service in New York is about three times that in Ontario, he might conclude either that the public system was much more efficiently managed, or that the private companies were profiteering. This conclusion would probably be accepted by those who are sympathetic toward government ownership and operation.

In attempting a scientific approach to the problem one might enumerate some of the more frequent explanations that are offered. Some defenders of private operation have contended that the domestic rate is discriminatory, that domestic service, for political reasons, is furnished in Ontario below costs, and that the deficit accruing because of these excessively low rates is made up by higher charges to users of industrial power. Our research has furnished no evidence in support of this explanation. The Ontario power rates are not higher than the New York rates, but are lower. Besides, the charges that are made by each municipality for each class of service are regulated by the Hydro Power Commission under Section 23 of the Power Commission Act so that the rates shall represent each municipality's proportional cost of the service, and the cost of the service to each class of consumers.

Another explanation by the defenders of private operation is that since the Ontario system pays no taxes their expenses are lower, and the lower rates can be accounted for by that reason. This account is correct as far as it goes, but it does not go far. Taxes in the case of the thirty-five New York companies were, according to our estimate, .0967 cents per kilowatt hour, while total production costs were 1.41 cents. Taxes represent less than 7 per cent of the cost of production, while the average spread between the New York and the Ontario revenue per kilowatt hour was 70 per cent. Hence, the taxes paid by the private companies account for only about one-tenth of the higher average charge.

An article in *Public Ownership* of February, 1925, gives an explana-

tion by those who are on the other side of the controversy. The rates in Ontario are one-third of those in New York because of super power, with service at cost, low capitalization, low cost of capital, and the amortization of the capital account.

Here the problem is probably exaggerated, and the explanation, sound as far as it goes, is not sufficient to account for the total spread between the New York and Ontario rates. The spread in the charges for all services is, according to our kilowatt hour average, in the ratio of seventeen to ten, and not of three to one. The latter ratio applies to charges for domestic lighting only. This is an important factor in Ontario when the energy sold for lighting purposes in 1926 was about half of the total. In New York it was about 25 per cent.

In attempting an explanation of the discrepancy of the Ontario and New York revenues per kilowatt hour, the difference in revenues from all forms of service will first be considered. The lower cost of the thirty-three Ontario cities in comparison with that of the thirty-five New York companies (1.21 cents per kilowatt hour compared with 1.41) accounts for 16 per cent of the spread. This perhaps may be justly ascribed to the benefits of super power. The higher profits or net income per kilowatt hour of the New York companies (31 to 11 per cent, approximately) accounts for another 20 per cent. And taxes explain about 7 per cent more. On the other hand, the funds secured in Ontario to purchase an equity in the hydro generating and transmission system, to retire the local debentures, and to add to the local sinking fund necessitated higher rates than would otherwise have been necessary, and may be used as a partial offset to the factors making for higher charges in New York. If 20 per cent be allowed for this factor, there is still an added charge of from 45 to 50 per cent or more to be accounted for by other factors.

Low capitalization and low cost of capital are factors which are said to account in part for the lower Ontario revenues. These lower interest costs would be reflected in a lower interest and dividend charge per kilowatt hour. Our figures show only slightly lower charge. The Ontario interest cost is about twice that in New York. This is explained by the fact that in Ontario all capital has been acquired through the sale of bonds. The entire capital charges, accordingly, are in the form of interest payable on bonds. In New York the financing is partly through the issue and sale of stocks. On the average the stock liability of the thirty-five private companies was 47.4 per cent and bond liabilities 52.6 per cent of the total capital liability. The payments on preferred stocks are, of course, higher than those on bonds.

Although the reports of the Ontario Hydro-Electric Commission and the reports to the New York Public Service Commission do not show a

noticeable difference in the cost of capital to the Ontario or the New York utilities, it would seem a reasonable assumption that a government industry could cut costs through a lower interest rate, since government securities are safe investments, and a smaller risk conditions a lower rate of interest. Since, also, the cost of capital is the largest item that enters into the cost of electricity, a reduction in this item would, one might expect, materially lower costs. This would be so if the government should guarantee the securities through its taxing power, and not let them take their chances as regular business investments. But if the publicly operated industry was to be financially self-supporting, as in the case of the Ontario Hydro, the advantage in interest rates would probably at best be small. If the interest rate of the industry under the direction of a board appointed by the government were ¾ of one per cent less (or in the ratio of 6 per cent and 5¼ per cent) the differences in total costs in our two compared areas, assuming an interest or capital cost of 40 per cent of the total costs, would be only about 5 per cent. In the long run, however, the Ontario municipals would be expected to achieve much lower rates on account of the policy of amortizing the debts. This policy is not followed as a rule by the privately owned utilities, which distribute about three-fourths of their net income as dividends, in line with the policy of making money for the owners, and increasing the value of the property through the capitalization of realized returns. In public operation, there are no stocks to be benefited by an immediate return, and the net income is devoted to enlarging the physical plant or paying off the debt. When the debt is eventually amortized, the rates can be greatly lowered, and the consumers, or, for practical purposes, the public, may draw interest on their investments in the industry in the form of lower charges for electric service.

So far, then, we have explained about one-third of the spread between the Ontario and New York revenues when the total cost per kilowatt hour of all classes of retail service is considered. The factors here given would not, of course, begin to explain the difference of 200 per cent between the average domestic rate of Ontario and New York.

So far we have accounted for about 25 per cent of a total spread of about 70 per cent in the difference of the average revenue per kilowatt hour in the New York and Ontario areas compared. Higher production cost of the private companies accounts for 16, profits for 25, and taxes for 7. This gives a total of 48 per cent. From this must be deducted about 20 per cent which the Ontario municipals add to the public funds through amortization and surplus, out of the net income. This accounts for about one-third of the spread between New York and Ontario revenues.

There are two other factors that have not yet been considered, the resales of wholesale power and the influence of the holding companies. The resales of wholesale power and the influence of the holding companies bring out a prime distinction between the Ontario and the New York systems. Perhaps this distinction might be called super power for service versus super power for profit. In the Ontario system there is only one generating and transmitting company. Thus the consumer pays the expenses of the one generating and transmitting company and the one distributing company that function in providing him with electric service. In New York there are resales of wholesale energy between the companies. Thus in 1926 energy generated by the Niagara Falls Power Company was sold at wholesale rates to the Niagara, Lockport and Ontario Company. The latter in turn wholesaled power to the Syracuse Lighting Company, a distributing corporation. The consumer in Syracuse paid rates that covered the cost of the distributing company in Syracuse and the cost of two wholesaling companies, the Niagara, Lockport and Ontario Company and the Niagara Falls Power Company. In Ontario the consumer paid the costs of one generating and transmitting company. In New York these costs were pyramided. If one company can generate and transmit electric energy one hundred and eighty-five miles, why is it necessary to have two wholesaling companies to transmit it one hundred and fifty miles? This looks like an unnecessary duplication and overlapping of functions, a case of unnecessary middlemen. In the competitive field this situation takes care of itself, and integration which lowers costs evolves the mail order house, the manufacturer's retail stores, and the chain stores. But in the electric utility industry the Public Service Commission is expected to allow a rate that will compensate for the actual investment of all the companies that are allowed to engage in the business. And if the industry is overorganized, if there are unnecessary organizations interposed between the power house and the factory and home, if there are unnecessary promoters' profits, investment bankers' commissions, lawyers' fees, and presidents' and vice-presidents' salaries, the consumer is expected to pay the bill. This duplication of expense charges is a cryptic expense. It does not appear on the books of the individual operating companies. It does, however, function as a cost in the industry as a whole. In so far as the same wholesale power is handled twice, the cost item of one company appears as the cost item of another, although there is no addition in the volume of energy to be retailed. And in so far as this is done, the cost analysis we have made of the costs of the average individual company ceases to be an index of the revenue that must be provided by the purchaser of electricity. According to records in the office of the Public Service Commission, resales of energy

among the thirty-five New York companies amounted to 1,181,236,251 kilowatt hours. Since the total sales of these companies was, 4,475,622,857 the resales amounted to about 35 per cent of the energy that was handled once. If this concealed or diffused expense is added to the other expense items and net income of the New York private companies, it will go a long way toward explaining the higher revenues per kilowatt hour of the New York companies. This arithmetical treatment, of course, gives a more or less spurious impression of exactness.

As to the influence of the holding companies, whether their fees and dividends are in excess of their services in reducing costs through raising the load factor and furnishing highly qualified financial and technical service, this research does not give any direct evidence. The only indirect evidence is in the higher New York revenues and rate schedules, and since there are a number of other factors, the combined influence of which nearly accounts for these, there is no attitude toward holding companies that is justified by the facts assembled in this research. Since, however, the holding companies have not invited publicity and have successfully resisted all attempts of the public service commissions to delve into their affairs, it would seem that the burden of proof is on them to show that their function is not super power for profit and not for service.

If this analysis of the situation is correct, the chief factor in the lower average charges to the user of electricity in Ontario is what may be called super power for service, with service at cost. By this is meant that they sell power at lower rates because, owing to unified planning and control, actuated by the social motive, they have developed a symmetrical and efficient distribution of capital and personnel throughout the industry. Thus they have achieved a relatively low cost of production through balanced proportion of factors and the absence of parasitic, profit-taking organizations. And they have sold the electric energy at only a small margin above costs.

So far this paper has attempted an explanation of the spread between the Ontario and New York revenues per kilowatt hour for all classes of electric service. The average revenues in the New York area are at least 170 per cent of the average revenues in the Ontario area. Now as to the rates and revenues from power and light in the compared areas. The average revenue from retail power in New York was 1.13 per kilowatt hour in 1926. The average revenue in Ontario was .87. In other words the power revenue in New York was about 130 per cent of the power revenue in Ontario. The average revenue from domestic and commercial light in Ontario in cents per kilowatt hour was 1.88. In New York it was 5.64. The New York average revenue was about 300 per cent of the Ontario average revenue rate. The av-

erage revenue for all classes of retail service in New York was about 170 per cent of that in Ontario. How account for these discrepancies?

First as to power. The rate schedules for all kinds of service in both areas decline as one looks up the schedules from small to larger blocks of power. Medium sized blocks of industrial power are cheaper per kilowatt hour than small blocks, and large blocks are cheapest of all. This is because the cost of production is less. New York is a more highly industrialized region than Ontario, and probably uses a much larger proportion of low-cost industrial power. The percentage of industrial power to all consumer's sales in the New York area was 75.7. In Ontario it was 55.1.[2]

Now how shall one explain the three to one charges for light in the New York area? Other things being equal, domestic light ought to be cheaper in an industrialized region, because the great bulk of the overhead costs would be already carried by the industrial power, and because under such conditions the domestic service would be off peak, so that it could be increased with little or no additional expense.

To solve this problem another factor has to be included, the factor of sales policy. This seems to be radically different in the case of the New York companies and the Ontario municipals. The Ontario municipals have freely experimented in price reductions. The New York companies have followed the policy of price maintenance or slow price reduction in the case of domestic service. The Ontario policy has proved the wiser both from the point of view of the consumer's interest and from that of practical business policy. The economic theory underlying this policy is, of course, clear to all here. It is the accepted theory of monopoly value. If an industry operates according to the principles of constant or increasing costs, and if the demand for the product is inelastic, the discriminating monopolist will restrict supply and make a large net return from a small number of units. He can increase profit by decreasing service. But if the industry is one of decreasing costs, and if the demand for the product is elastic, the discriminating monopolist will bend his efforts to the increase of supply. This will be so especially if the cost curve rapidly falls with increase in sales and if the demand is so elastic that the spread between cost and price increases with the expansion of sales, for then the seller can make increasing profits per unit from a larger number of units. Under these circumstances the monopolist can increase profits by increasing service.

Both of these conditions, decreasing costs and elastic demand for the product, are characteristic of the electric industry. Or more exactly,

[2] Latest information is that the largest blocks of industrial power in Ontario are supplied direct under contract by the Commission itself. If these blocks of cheaper power were averaged in, the New York revenue for kilowatt hour would be a much higher percentage of the Ontario revenues than 130 per cent.

costs decrease with increase of size of plant and the demand for domestic service is elastic. The industry is one of decreasing costs in respect to both generation and distribution of energy. The unit cost of generation in the large plant is less than in the small one. A large hydro plant is more efficient than a small one, and the same is true of the large steam-generating plant. The larger hydro plant is located at the large water power site where geological conditions make for low unit costs. The larger plant and machines represent less capital per unit of product than multiple units that have an equal producing capacity, since there is less labor per pound of material, and less duplication of parts. The large plants can afford the expense of labor and power-saving apparatus. It has been estimated that fixed costs in power generation represent over 85 per cent of the total expense.

Large-scale generation, especially by hydro plants, and to a greater extent in agricultural and sparsely populated regions, involves a considerable expense for transmission. On the other hand, widespread transmission, which covers areas with diverse industrial conditions may make possible a reduction of unit costs because of variations in the peak demand in different parts of the area served. Interconnection may raise the load factor, since heavy demand from one region or for one use may synchronize with less demand from another region or use. In this case there would be need of less local reserve capacity. Whether or not the function of transmitting electric energy exemplifies increasing, constant, or decreasing costs, is a question that will be left to the engineers. Since, however, the costs of transmission are slight in comparison with those of generation and distribution, the answer to this question would not change the classification of the electric industry as a whole.

The distribution of electric energy is an industry of diminishing cost. The installation of the distributing system, the placing of transformers and meters, represents a fixed expense. So does the making out of the monthly bills and the reading of meters. It costs no more, or practically no more, to make out a bill for 200 kilowatt hours than for 20. And it is just as easy to read the meters for a large amount as for a small amount. Expenses are mainly overhead, and under this condition the policy is to increase output in order to reduce the overhead costs per unit. With an increase in sales the total cost per unit rapidly falls, as there are almost no additional operating expenses. Of course accidents might increase and equipment might suffer a slightly increased wear. However, in the words of Morris L. Cooke, "Once the original expense of installing the distribution system and house connections has been undertaken, together with the obligation of keeping that system in repair, there is no other commodity which can be delivered with an

ease or cheapness approaching that with which electricity can be delivered. No trucks, no messenger, not even a message is required. The current is delivered automatically through channels already in waiting, the consumer himself regulating the flow. If milk or coal or potatoes could be delivered by so simple a system, we would expect an enormous reduction in the distribution factor in the whole cost." Economists will think of the railroad in this connection, how the costs per unit of transportation decline up to the point of maximum utilization of facilities. The electric industry is probably a still better example of diminishing costs, since operating expenses scarcely increase with increase of service up to the point of maximum output of the generating plant. When the consumer comes to demand the maximum under a given system, there is further opportunity for reducing the unit cost of generation. The electrical industry is highly dynamic. Design and efficiency of equipment are improving with time, so that expansion of demand may be the occasion for a reduction of costs and rates through the opportunity that is offered for installing larger and more efficient units.

If we turn from considerations of supply to those of demand we find that here, too, the condition justifies an enlargement of output. The demand for domestic service is elastic. Probably the demand for a minimum amount, possibly about 20 kilowatt hours for domestic lighting, is fairly inelastic. But after that increase of demand waits upon inducement rates. The householder can substitute gas, or physical drudgery, or suffer deprivation of the services, unless the price is within his purchasing power. A slight reduction of the rate will bring about a considerable increase in the amount purchased. This has been established by data on consumption and rates, furnished in the reports of the Ontario Power Commission in Statement D of the 1926 report. A good example of this is found in the history of the average monthly consumption, net cost per kilowatt hour, and average monthly bill for domestic service in Ottawa, Canada. In 1914, when the net cost per kilowatt hour was 5 cents, the average monthly consumption was 19 kilowatt hours, and the average monthly bill was 95 cents. In 1926, when the net cost per kilowatt hour was 1 cent, the average monthly consumption was 179 kilowatt hours, and the average monthly bill was $1.75. If the bill in 1926 had been 95 cents the "elasticity of demand" would have been "unity," but it was almost twice that amount.

The managers of the Ontario system have reduced charges, reduced charges have stimulated sales, increased sales have brought about a sharp decline in costs per kilowatt hour, and lower costs have allowed further cuts in rates without financial deficit. It would be interesting to economists to know whether this admirable sales policy was a conscious application of economic theory, or the result of an open-minded

attitude toward price experiments in the interest of the consumer. Perhaps it is not fair to expect of practical men a working knowledge of the principles of economics, their general attitude being rather that economics is of remote academic interest, a discipline of the cloister rather than a body of rules and principles on the basis of which business policy may be harmonized with human welfare. The New York companies seem to have followed a rule-of-thumb policy of price maintenance and cost reduction. They assumed, as regards domestic service, that they were dealing with a seller's market when it was a buyer's market. And they did not have the interest in making rate cuts that might have shown the unenlightened nature of their policy. Professor Edie, in his *Economic Principles*, remarks, "Generally speaking, large business combinations prefer to lean toward as small a volume of sales as possible at as large a price as possible, in so far as that is not inconsistent with the maximum net gain for the industry."[3] In the case of the New York company sales executives, their policy has not even worked for the financial interest of the companies themselves. They followed a policy of profit losing by restricting service. In view of these facts, the high ethical tone adopted by some of the spokesmen of the industry seems of doubtful taste.

By way of summary, the publicly owned and operated Ontario system is more efficient than the large New York private companies in rendering service to the public primarily because of their social policy, a policy of super-power for service, with service at cost, and the amortization of the capital account. In line with this policy, by means of large-scale planning and control, they have built up a symmetrical industrial organization and have thus avoided the expense of parasitic, profit-taking organizations that levy charges in excess of services to the industry. Also (perhaps because of the service motive), they have followed a more enlightened sales policy, and this has enabled them to make rates for lighting much lower than those charged in New York.

It is not the purpose of this paper to suggest an administrative policy that would enable American consumers to enjoy the same advantages as our neighbors to the north. That is the work of another group of specialists. However, there are certain economic aspects of the industry which might furnish standards to aid the judgment of administrators. Generation by hydro is a natural monopoly of situation. Generation by use of coal may be a competitive industry, since coal can be purchased by all on the open market, or it may be made a legal monopoly. Generation both by hydro and steam are industries of decreasing costs. Distribution of electricity is a monopoly within a certain area, since it is necessary for a distributing company to use main

[3] p. 187.

supply wires and control all the business in a given section in order to conduct it most economically. From the data collected, however, it does not seem necessary that the monopolized area need be very large. If large area controlled led to lower costs, the distribution expenses per kilowatt hour in large Ontario cities would be lower than that in smaller towns and cities, but this is not the case. The lowest cost of distribution among the Ontario cities in the Niagara System was in Brantford, Niagara Falls, and Sarnia, with populations respectively of 28,000, 17,000, and 16,000 (1920), and distribution costs of .10, .11, and .12 cents per kilowatt hour. London and Caledonia with populations of 63,000 and 1,400, respectively, both had the same distribution costs of .13. The distribution cost per kilowatt hour in Toronto, the largest city, of 542,000 population was .33, while that of Blenheim, of 1,600 population was .357. These facts would seem to warrant the conclusion that the distribution of electric energy from the point of view of the size of area monopolized by the distributing company is an industry of constant cost, or, in other words, there is no probable economy in large distributing companies. Only in its intensive utilization within a limited area is the function of distribution one of decreasing costs. This distinction may be of value in case it is proposed to reorganize the electric industry on a competitive basis.

Returning to the main issue, the question of the relative success of public or private operation, one hesitates to generalize on the basis of research within a limited area and time. It may be that the public versus private operation controversy is irrelevant; it may be an example of the logical fallacy of the undistributed middle, or from the point of view of contemporary psychology, it may involve a group fallacy. Both terms, public and private, may denote elements too diverse to be combined into practically useful concepts. On the other hand, the issue may be real. Out of economic and social dynamics there may be arising a need for a revaluation of motives, habits, and ideals. The rise of social engineering may be leading to the development of a new cultural complex, a new set of folkways and mores.

Leaving aside the main question, it may be said, however, that there are a number of oft-repeated generalizations in the field of public utilities for which one may look in vain for supporting evidence in the forty-four statistical tables in which the results of this research are assembled. To avoid being indefinitely prolix I shall quote only one typical assertion: "Government regulation of privately owned and operated utilities has made a record which stands out in marked contrast to the record of failures of government operation here and abroad. Where government operation has been attempted either rates or taxes

have been increased, service has deteriorated and progress and inventiveness have been brought to a standstill."[4]

Just at present the optimistic utterances of some of the representatives of the private companies have been somewhat tempered under the frequent investigations by the Federal Trade Commission, by committees of Congress, and committees of state legislatures. And several men prominent in the public utility field have published frank and constructive criticism of the present form of organization and regulation of the electric industry in the United States. Among these critics are the authors of recent articles in the *Atlantic Monthly*, Maurice R. Scharff and Professor Philip Cabot.

Both of these authorities believe that the condition of the electric industry in the United States is far from satisfactory. Mr. Scharff asserts that the fault lies with the holding companies. On a small capital investment they are making enormous profits out of fees for finance, engineering, and management of public utility corporations. And they have not been regulated because their financial structure was too complex to be understood by any but the insiders, and because they have resisted all attempts of the public service commissions to delve into their affairs. Mr. Scharff, after pointing out the necessity and the difficulty of better regulation, observes that "there is always lurking in the background the possibility of government ownership and operation—than which no greater public calamity can be imagined." If by "public" Mr. Scharff means the managers of the holding companies, and the owners of the stock of the finance, engineering, and management corporations which he discussed in his article, a relatively unbiased student of the situation might agree with him; but if by "public" one means the great mass of people who purchase commercial and domestic light and power, there is at hand an excellent illustration of this extreme calamity, which both Mr. Scharff and Professor Cabot elaborately ignore. This calamity takes the particular form and pressure of average revenues ten-seventeenths as high as those in territory under private initiative, and domestic rates one-third as high.

The really great evil that has flowed from the Ontario Hydro has, perhaps, never yet been formulated. The hydro system has probably been one of the potent factors in causing many people south of the border to lose their sense of intellectual responsibility. In this respect it may even run a close second to the protective tariff.

In his article, "Ethics and Politics," Professor Cabot lays the blame for the present situation not on the holding companies but on the commissions. The managers of the holding companies have been dishonest,

[4] W. H. Onken, Jr., *Shall Government Enter Business*, p. 15.

but they were forced to be by the wrong method of regulation employed by the public service commissions. The commissions have regulated profits whereas they should have determined rates or prices. They have followed this mistaken policy because of the wrong assumptions; namely, that public utilities are monopolies, and that, therefore, price cannot be fixed by competition and that price being determined by cost, the cost of the property of the public utility used in producing the service is the predominating element of cost which requires determination. This ascertained cost of production plus a fair rate of return represents the gross income which the utility is allowed to earn.

Professor Cabot would base regulation on a different set of principles. Electric utilities are not monopolies as far as the price of their service goes. Each power company has a monopoly of the sale of its product in its local field, and does have a monopoly power over the energy sold for light, about 25 per cent of the whole; but in the case of commercial power about 75 per cent of the whole, the energy must be sold in competition not only with other power produced by the potential customers, but also with a great variety of substitutes. The competition with substitutes is thus a possible form of effective control in the industry.

The principle assumed by the regulating commissions has been that cost determines price. This is true of static but not of dynamic industries. In dynamic industries, like electric utilities, the reverse is nearer the truth—price determines cost. The true function of the regulating commissions, therefore, is not to determine costs but to ascertain fair rates or prices. If this is done, the state need not concern itself with the profits of the utility companies. The efficient managers may devote their energies, not to evading the profit-restricting efforts of the regulating commissions, but to their proper field of cost reduction. The margin of cost below the fixed price, in this case, would be the measure of earned profit, and the incentive to greater efficiency and further cost reduction. Management would then be freed from the temptation to dishonesty, and would be stimulated toward industrial progress in place of the present concentration on evading regulation.

This policy seems the most constructive that has yet been made by the representatives of private operation. As a general policy there is nothing hostile to it in the facts assembled in the School of Citizenship research. On the contrary, the facts may seem to point toward a solution of this character. As has been shown above, there seems to be no definite causal relation proceeding from costs to rates. On the other hand, the causal movement seems to be from rates or prices to costs. In Ontario rate reductions have led to cost reductions with the possible alternatives of profits, increased surplus, or further rate reductions.

In New York, companies that have sold power and light at greatly divergent prices have been allowed by the commission to make the same percentage of net income on the public utility property. Typically the smaller and less efficient companies have made a greater profit per kilowatt hour than the larger and more efficient companies. As Professor Cabot has pointed out, this condition does not hold out an incentive to able men.

The same situation may explain the unbalanced organization of the industry in New York, the consumer in New York sometimes paying part of the expenses and earnings of a second wholesaling and transmitting corporation when one such corporation in Ontario would perform the same service. Under the present system there is no incentive for reorganizing the industry as a whole on the principle of the proper proportion of factors, because one would get no return for so doing. The companies can get 8 per cent whether they overlap and duplicate functions or not. And reorganization would help no one but the great mass of consumers. Under rational price setting, however, the incentive to reorganize the industry would be established, since reorganization might greatly reduce costs and increase profits.

If this policy were adopted, the commissions might devote their energies to discovering what costs ought to be, such as the practical medium between high and low costs, or some such principle as bulk-line costs, or they could take the Ontario rates and add a certain percentage, say 20 or 25 per cent, as a safe margin for starting the movement of expense cutting; and the rate or base might be lowered as average costs fell, without destroying the incentives of the most efficient managers.

While one may prefer, on the basis of data in our tables, Professor Cabot's plan over the present situation, there are some important assumptions in his article that the tables do not support. One is that the companies have a monopoly in respect to the sale of energy for light. The opposite of this, as was emphasized by Morris L. Cooke, and as has been demonstrated above, seems to be the case. The demand for electricity in the home is highly elastic. Here is the major competitive field of the industry.

Rates for power, on the other hand, as conditions now stand, are relatively inelastic. If rates for electric energy make electricity the cheaper or preferable form of power, and rates were raised so that electricity ceased to be preferable, or it would pay to install a private steam generating plant, then the possibility of using substitutes would prevent a further rise in rates. But if the future policy of the companies is to be reduction and not rise in rates, it does not appear how rate reductions can lead to cost reductions unless they lead to an in-

crease in sales of power. In Ontario the demand for power service is very inelastic. Rate reductions have been followed by increased sales, decreased sales, or sales of about the same amount, and the same is true of rate increases. Note the following examples of changes in the charge for horse power.

POWER SERVICE

Municipality	*Year*	*Number of Consumers*	*Average Horsepower*	*Average Cost per Horsepower*
Toronto	1917	2,028	36,856	$19.92
	1926	3,132	89,466	24.51
Windsor	1917	97	807	19.04
	1916	351	8,405	32.13
Alexandria	1922	11	143	52.64
	1926	23	345	37.17
Brockville	1917	49	631	48.72
	1926	69	1,534	30.62
Collingwood	1921	53	853	21.94
	1923	59	1,270	25.88
	1926	55	903	21.48
St. Marys	1917	30	472	18.67
	1926	39	908	27.58
Smith's Falls	1920	81	668	33.50
	1926	40	614	31.33
Strathray	1917	11	175	23.65
	1926	26	586	19.59
Tillsonburg	1917	20	451	17.59
	1918	22	532	31.42
	1926	26	496	25.17
Wallaceburg	1917	16	415	31.85
	1918	18	504	24.67
	1919	28	732	34.97

This inelasticity in the demand for power may be explained by the fact that power is only one of many factors in the cost of production, so that a large reduction of power costs would cause only a small reduction in total costs. Thus if the cost of power were 10 per cent of the cost of production, and the power rates were cut in two, the total cost of production would be reduced only 5 per cent. For this reason one could not expect cheap power alone to transform an agricultural into an industrial region. In the case of those industries in which power is the major expense, cheap power might condition a change in the location of the industry. The reason why demand for electric service in the home is elastic is probably because demand for power is not in this case a joint demand but the main or whole demand. Demand for electrical apparatus and demand for the power to drive it are the two factors in the cost of household service, while in the case of the factory there are factors of rent, capital, labor, transportation, near-

ness of raw material and nearness to market as well as cost of equipment and power. In the case of industry, power is a minor ingredient in cost, so that demand for power does not fluctuate with a rise or fall in the rate.

As an alternative to the profit incentive as advocated by Professor Cabot under private ownership, it might be worth while to experiment with public operation. If equally efficient managers and engineers could be secured by high salaries or from the ranks of socialized experts, this form of operation would lead to lower rates or prices, because interest charges might be somewhat less, the policy of amortizing the debts would lead to eventual reductions of considerable size, and the profits could be distributed in the form of reduced charges to a large number of people, while under private management the income would be distributed to the few inside managers and the owners of common stocks.

ELECTRIC POWER AND LIGHT UTILITIES—DISCUSSION

JOHN BAUER.—Both Professor Ruggles' and Professor Peck's papers have so many ideas which stimulate discussion, that it is possible to consider only briefly a few points within the time allotted. The discussion will be necessarily more sketchy than would otherwise be warranted.

Both papers are devoted primarily to electric companies, but they really concern the entire field of public utilities. As to electric companies, the underlying assumption is that present rates are, generally, excessive, and that the rate structures have not been properly revised in harmony with present-day costs and conditions of operation; that regulation has not been effective; that constructive measures are needed to bring about the needed adjustment of rates, and to bring all aspects of operation under systematic public control.

I agree with these assumptions, and mostly agree with Professor Ruggles as to what shall be done, so far as he goes. There is little doubt that electric rates in most of the cities are too high, particularly so far as domestic users are concerned. Power rates are probably much more nearly correct, because they have been established in active competition with other sources of supply. With the enormous improvements in methods of production, and, especially, with the great increase in consumption and the levelling up of the load factor, unit costs of the companies have diminished greatly and the returns have increased correspondingly. While some reductions have been made in many places, the common belief is that they have not been nearly in proportion to what the public is entitled. This applies particularly to domestic rates.

Professor Peck has presented interesting figures to show the difference in rate levels as between New York and Ontario municipalities. Most striking, is the fact that average domestic rates in the New York cities are five times the average power rates, while in Ontario the corresponding spread is only two to one, that the New York domestic average is three times that of Ontario, while the New York power rates are only one and three-tenths times the Ontario average. These relative variations are most suggestive. They strongly indicate, but do not outrightly prove, that the New York rates are out of reasonable harmony. If Professor Peck had gone further, and taken individual rate schedules, he would have shown that the extreme differentials between highest domestic and lowest power rates far exceed the average ratio of five to one in New York cities. He would find that they come to ten to one, and beyond. The average New York rates for domestic lighting are 5.6 cents per kilowatt hour, while the average for power are 1.13 cents, and the average for all sales, 2.26 cents. But the highest domestic charge compared with the lowest power charge for individual companies will show much more extreme disproportions.

I believe that the time has come when a thorough revision of electric rate structures should be made, practically throughout the country. Unfortu-

nately, there is not a single commission which has an adequate "measuring rod" by which to determine the total revenues to which any given company is entitled, including necessary operating expenses, taxes, and a fair return on property. Beyond this, no commission has the facts to show what spread or "differential" between the various classes of consumers is reasonable and proper. The rate structures are chaotic; mostly they were established a generation ago for domestic consumers, and have been left unaltered, in a "frozen" state, except with minor modifications. Power rates have been adjusted according to expediency as any particular company dealt with conditions in its own territory.

No broad and far-reaching studies have ever been made by any commission or any group of individuals to determine the proper relationship between the different classes of rates. That there is justification for a substantial differential between the domestic and power rates, there can be no doubt. There should be regard also for the so-called individual "consumer costs," which might well be absorbed in a "service" charge. But otherwise, what is the proper differential? Upon what facts should it be based? What methods of cost analysis or other considerations should control? In regard to all these matters, the commissions have no positive standards, and it is high time to bring the revision of rates constructively in line with present-day conditions and requirements.

I cannot say what the proper differential is between domestic and power rates; nor do I feel certain as to the particular cost analyses that should be employed, and how far "what the traffic will bear" should be given consideration. Probably, no general rules can be adopted to apply to all cases. Adjustments must doubtless be made for individual properties. Nor can Ontario experience be taken as a guide. I feel certain, however, that in most American cities today there is no justification for the existing wide spread in the rate structures; that domestic rates should be greatly reduced, with due regard to out-of-pocket costs incurred on account of the really small "convenience" users.

What shall be done? Professor Ruggles makes two positive recommendations in the concluding part of his paper, but in reality offers also two other important proposals. Professor Peck disclaims the purpose of proposing an administrative policy which would work for the benefit of American consumers, and largely contents himself with setting forth existing conditions as indicated by statistical analysis presented. He appears to slant toward an extension of public ownership and operation, especially for the public development of water-power projects, and makes an appeal for a change in sales policy, which he would consider good business for the companies.

In regard to Professor Ruggles' proposals, he would, first, greatly strengthen the commissions, both as to personnel and as to legal powers. To all that he says, I say "Amen." The commissions, by and large, are organized in a way which might indicate deliberate intention to defeat the purposes of regulation. Apart from the technical incompetence of a large proportion of the commissioners, there is not a single commission which is

adequately manned to do the job imposed upon it, even if suitable policies and methods had been established to make regulation workable. Not a commission today has an engineering and economic staff adequate to make the difficult analyses involved in the revision of electric or other rate schedules. The fault is the commissions', also the legislatures', the various public authorities', and, of course, the public's, for accepting complacently the appearance of regulation, which in reality does not regulate, or works very poorly. Reconstruction on rational lines will, unfortunately, be a slow process, but there are indications of light ahead. There are, at least, some commissioners, for example, Chairman William A. Prendergast of the New York Public Service Commission, who realize the seriousness of the situation, and who are trying intelligently and energetically to bring about reconstruction along needed lines.

The second proposal made by Professor Ruggles is the creation of interstate control to cope with the increasing interstate aspects of the electric business. I am thoroughly in accord with the proposal, but I do not believe that the new device, while it would serve in its own realm, would reach the major difficulties which serve largely to defeat regulation within the states. The problem is primarily one of internal statesmanship, and not of interstate relations.

Professor Ruggles has set out clearly the influence wielded by the holding companies, which disregard state borders. Presumably, he would have these agencies brought under interstate control, and would have them under regulation in every important respect which affects operation and service. Of course, holding companies should be brought under public control. They are today a part of the general organization of the electric business, and exercise wide domination of the industry. If there is any reason for public regulation at all, it extends at the present time to the holding companies, which exercise not only extensive control over the operating managements, but dominate the financing, impose charges for engineering and technical service, and provide separate agencies for special jobs and services, and, particularly, for construction. These are important phases of actual utility operation, and should be brought under public control, exactly as are the ordinary, so-called, operating companies. To a large extent, because holding companies have not been brought under control, they have absorbed increasingly the actual functions of operation.

Professor Ruggles makes one suggestion with which most emphatically I do not agree. He would favor adjusting the rate of return according to efficiency of management, for the purpose of stimulating progressive operation and improvement of service. The idea, of course, makes economic appeal. Considered abstractly, it is desirable to compensate efficiency and to penalize inefficiency; to use the profit motive for the improvement of management and the benefit of the service. Applying the idea, however, to actual conditions in the electric industry, or other utilities, I do not see how it can be carried out. I have considered this matter for many years in actual experience with regulation, in cases where the point was actively raised in

connection with rate making. My judgment is, that it is physically impossible to set up satisfactory standards for the measurement of relative efficiency, so as to carry out the idea effectively in actual administration of rate making. The financial results of operation depend upon so many factors other than efficiency of management, that the part attributable to efficiency to be especially rewarded could not be separated from other elements, especially when the commission in any state would have to deal with numerous companies operating under greatly varying circumstances.

High returns may be due to excessive rates, to favorable location, to density of demand, to favorable load factors, none of which could be directly assigned to efficiency. Low returns may be due to obverse conditions, and could not be charged against management. I see no way by which an administrable measuring rod could be devised so that the results of management as such could be determined to comply with adopted standards of rewards and penalties. There are also other considerations which stand against Professor Ruggles' proposal. Perhaps the principal one is that the variation in return would not affect directly the actual management which operates the property and produces the results through its decisions and methods. The rewards would go to the stockholders, who, for the most part, would have no immediate contact with the property and would have only remote influence upon management. In some instances, of course, stock ownership might be closely identified with actual control; in others, the relation would be distant, particularly where the ownership is widespread and no group has majority possession. There are such wide variations in conditions of ownership, that no commission rule could be established to make administration effective.

There is the further important consideration that the actual management which directly controls the properties is already well rewarded in most cases and is duty bound to furnish the most efficient service possible. Consider the ordinary electric company, or other utility. Are the managerial salaries inadequate for efficient operation? There is no public limitation in fixing salaries; presidents or general managers seldom receive less than $25,000 a year, and sometimes $150,000 or more. Other high salaries are paid; the public has not interfered with the scale of compensation required in relation to responsibilities and services rendered. There may be instances where salaries are inadequate and should be increased. For the most part, however, they appear sufficient to entitle the public to the best efforts for efficient operation, without the further inducement of variation in rate of return, which, indeed, would not reach the actual managerial personnel in charge of operations, except in a haphazard way, depending upon differences in circumstances.

To go beyond Mr. Ruggles' paper, I believe that he has not touched the most important condition that has made regulation largely ineffective and unsatisfactory. The greatest need is to revise the basic policies and methods employed by the commissions for rate making. Instead of making the return variable for any reason, it is necessary to make it non-variable: a definite

and exact sum, based upon facts which can be regularly determined and administered in a systematic way. What has dead-locked regulation more than anything else, rendering the process largely nugatory, is the lack of clear and precise standards and machinery by which the return is determined and translated into rates. Here, in my opinion, is the crux of the matter, where fundamental readjustments of policies and methods is essential. The commissions may be strengthened, the personnel increased, official and staff salaries raised, interstate regulations adopted, holding companies brought under subjugation, but if we continue upon the present general basis of determining the return to which the companies are entitled, we shall continue to flounder with a system which is unworkable as to administration and unsound as to financial consequences.

I refer, of course, to the present undefined and variable rate base and rate of return. A company is entitled to a "fair" rate of return upon the "fair" value of the property. What is "fair" has never been precisely defined by statute or by the courts, and has never been worked out and accepted by any commission in a form that could be administered in an effective way. What is a "fair" rate of return? Immediately, in any case, the commission is confronted with differences of opinion, dispute, litigation. What is "fair" value? Again, dispute and litigation. There is no exact measure; not even exact concepts. In any case involving rate adjustments, the company naturally seeks to establish the maximum possible amount that can be justified by the opinion of highly paid experts. On the contrary, municipalities, or the public side, will strive inevitably for the minimum value that can be testified to by opposing experts. This means litigation, protracted hearings, great expense, and a cumbersomeness of procedure that makes effective regulation an impossibility. The same thing must be repeated over and over again every time a substantial rate adjustment must be made.

The very situation tends to prostitute the entire process of regulation. It affects the companies as well as public representatives; it reaches the experts and undermines their professional integrity; and, inevitably, it affects the commissions, and leads them to avoid wherever possible any step on their own part to touch rates, for fear of starting a rate controversy. If a large city is vigilant, rates are kept down substantially to reasonable levels. Smaller municipalities are all but helpless in the fights, and are thus more subject to excessive rates. Powerful companies can get needed rate increases after great effort, expense, and waiting. Weaker companies are likely to be subjected to confiscation, if relief is really needed.

Under existing conditions, it is indeed surprising that regulation has worked as well (though very poorly) as it has. I recognize that conditions are better with such regulation as we have than would be otherwise the situation; but the time is certainly overdue when the main obstacle to regulation should be removed. The time for stock-taking is at hand, and a new basis must be adopted. We cannot work with the instruments that we have been using. It is necessary to establish through legislation, after de-

tailed survey of the inefficiencies of our present system, a basis of regulation which can be administered and which is just to both the investors and consumers.

Whatever else may be done to reconstruct and revitalize regulation, the prerequisite is to establish a definite rate base, which will be shown constantly by the books of the company and the records of the commission. For this purpose, probably an initial valuation, officially determined, is essential in most instances as the first step. This amount would represent existing properties, and should never be varied subsequently. It should be entered in the books as a fixed and non-variable sum to be maintained systematically thereafter through adequate provisions for depreciation. It should, of course, be "fair" to both the company and the public. It would be added to only by the actual cost of subsequent additions, extensions, and improvements to the property, which would then be fully maintained through charges to operating expenses. In this way, the rate base would be shown constantly as a definite sum. The rate of return should be equally fixed upon an exact basis—say 7 per cent upon the initial valuation and the actual cost of money upon subsequent investment. With such a system, no dispute could arise as to the amount of return to which a company is entitled. It would be shown by the accounts, subject to simple administrative control.

If we once had such a definite rate base for each company—and it can be obtained, so far as the ideas are concerned, quite easily, although its establishment through regular political processes looks discouraging—it would be a rather simple task for a commission to decide whether a company, in the aggregate, was collecting more revenues than it is entitled to receive, or whether the earnings are inadequate. There could be no dispute and litigation; the facts would appear definitely from the records. The commission could then promptly order either a general increase in rates, or a reduction, according to circumstances. Then, moreover, it could revise the rate schedules to meet rationally the conditions of the industry and of the particular company. Then the company would have no interest in maintaining high rates, because it would not be affected in the aggregate return allowed. Together with the commission, the management would then have reason for bringing about general rate adjustments and establishing such schedules as to meet most reasonably the various conditions of service.

I do not see how there can be scientific revisions of rate schedules upon a large scale until the basic quantities have been determined, the total returns to which a company is entitled. So long as regulation is involved in incessant strife as to that matter, we can expect little of other phases of regulation that have been neglected.

I believe that this matter is important and extremely serious. Criticism of commission regulation is widespread and mounting; much of it is, of course, ignorant, but the force is to destroy regulation and to substitute public ownership and operation. I am personally not opposed to public ownership and operation; nor am I a dogmatic proponent. I do think, how-

ever, that it would be extremely unfortunate to force the establishment of public ownership and operation through failure to establish a rational system and machinery of regulation. With effective regulation, the reason for public ownership and operation would in most instances disappear. Private operation would doubtless be satisfactory, except under extraordinary circumstances. But, if we are to continue with litigation and deadlock, under the guise of regulation, what other rational course is open than public ownership and operation?

THE REGULATION OF THE COMMON CARRIER MOTOR VEHICLE WITH RESPECT TO ITS COMPETITIVE ASPECTS

By Henry R. Trumbower

University of Wisconsin

Regulation of common carrier motor vehicles has now been carried on by many of the states for almost a decade. A majority of the states have enacted laws which provide for the regulation of the common carrier motor bus or motor truck operated over the highways. During the past two years there has been a strong agitation for the Federal government to adopt a similar regulatory policy with respect to the interstate operations of these types of carriers. These regulatory laws have been in effect long enough so that it ought to be possible at this time to inquire into their several provisions and review the administrative practices to which commissions have resorted.

Whenever this subject of regulating motor busses and common carrier trucks is brought up the discussion usually revolves about the certificate of public convenience and necessity. This certificate or permit feature based upon public convenience and necessity requirements may readily be regarded as the central feature of all such regulatory laws and practices.

At the outset it is interesting to compare the conditions under which the early railroad regulatory laws were passed and later the public utility laws, with the circumstances under which regulatory laws were enacted applying to highway common carriers. In this analysis of motor vehicle legislation the problems and regulatory policies pertaining to urban carriers are excluded and the whole discussion is restricted to rural or interurban operations. The principal cause leading up to the enactment of laws regulating railroads was the feeling that the railroads were charging excessive or unreasonably high rates or were guilty of discriminatory practices. Where it is proposed to regulate motor vehicles engaged in common carrier operation, the matter of regulating rates or charges, or the necessity therefore, is about the last thing that is mentioned as being the reason for this type of legislation. The public feels that the specific rates charged by motor carriers are limited very largely by the freight and passenger rates charged by the railroads and that motor carriers cannot charge any more, except to the extent that they perform additional services, such as pick-up and store-delivery in the case of the transportation of freight. In the

framing of motor carrier regulatory laws, provision is always made for the control of rates and rate-schedules but in no instance has it appeared that this was the principal reason calling for the passage of this type of regulation.

Both the state laws and the interstate commerce act were enacted upon the theory that competition between railroads should be encouraged. The regulation of competition, if not its elimination, is generally the main reason advanced for the regulation of common carrier motor vehicles. The "regulated monopoly" idea which constitutes the keystone of public utility regulation is applied to the common carrier motor vehicle business. Not till 1920 did the regulation and supervision of competitive railroad construction and extensions become a part of the Federal scheme of railroad regulation. That principle had been followed in a number of states so far as the construction of intra-state railroad lines was concerned.

There is another interesting fact observed in contrasting the arguments which are made for the regulation of motor busses and trucks with the early demands for railroad regulation. The urge for the Federal government to regulate the interstate operations of the railroads, and the previous demand for state regulation, was made generally by the public, by shippers, and by those using the services of the railroads. This agitation for governmental regulation was based largely on the theory of self-protection. The records indicate that the railroad owners and operators as a class strenuously opposed this proposed scheme of regulation and prevented legislation of that character from being enacted as long as they possibly could. They could see no positive advantage in such a policy. In their opinion they had everything to lose and nothing to gain.

A wholly different situation prevails with respect to the proposal to regulate common carrier motor vehicles. The principal proponents of such legislation are not motor vehicle shippers and passengers. There is no evidence that there has been anywhere a strong demand from public interests for this type of regulation or for the extension of railroad and public utility regulatory principles and practices to motor bus or motor truck operation. The shippers and those making use of common carrier motor vehicle service do not find themselves unduly or unreasonably burdened by the rates and charges assessed against them. Nor is there any feeling on their part that certain individuals, or groups of individuals, or certain sections of the country, are being discriminated against by these new types of common carriers. The public generally appears to be more interested in such matters as safety of operation and compulsory accident and liability insurance.

The idea of the necessity for legislation of this character in the pro-

posals before Congress and state legislatures has had to be sold, in most cases, to the lawmaking bodies and to the general public. No occasion can be recalled where men have been elected to legislatures on platforms binding them to the principle of common carrier motor vehicle regulation. Where such regulatory bills are introduced they are usually placed in the hands of legislators who are willing to let their names be used in the sponsoring of this type of regulation. The movement for this kind of legislation does not have its origin in public agitation. Curiously enough, it is found in many instances that the chief interests seeking common carrier motor vehicle regulation and legislation are individuals and organizations engaged in operating common carrier motor vehicles. This condition is particularly true so far as motor bus operators are concerned. The testimony presented at hearings on behalf of motor trucking interests shows that the operators of common carrier motor trucks are as a rule opposed to the application of a regulatory law to them. They claim that, on account of the peculiarity of their business and operating conditions, their rates and services could not be regulated in the same manner as those of motor busses. They point out that their service in many cases is not maintained over regular and fixed routes and that they cannot live up to specific schedules as to rates and as to time and regularity of operation. Many regard themselves as being in the same class, more or less, as tramp steamers which seek their cargoes for various destinations wherever they may be found and let the principles of demand and supply for the time being fix their transportation charges. In many cases it involves a bargaining between shipper and carrier.

To what extent the different parties who are interested in this type of regulation are in favor of it or against it, at least so far as the interstate aspect of it is concerned, is revealed to a certain extent by the appearances before the interstate commerce committee of the Senate in 1926 when it conducted a week's hearings on a bill which provided for the regulation of interstate commerce by motor vehicles operating as common carriers over the public highways. That measure provided for co-operative administration by the several state utility commissions and by the Interstate Commerce Commission. Most of the testimony and argument presented at those hearings dealt with the subject of the regulation of competitive operations and the granting of certificates of public convenience and necessity. At those hearings six representatives of state commissions appeared of which five, constituting a committee of the national association of railroad and public utility commissioners, favored the provisions of the bill under consideration which contemplated the regulation of both common carrier busses and trucks engaged in interstate commerce. One member of a state commission

expressed himself as being in favor of state regulation but opposed certain features of the bill under consideration.

There was a decided cleavage of opinion between the representatives of bus operators and bus associations and organizations on the one hand and those representing the motor truck interests. In all, seven representatives of bus operators appeared, five of whom were in favor of the bill and two were against it. Nine truck operators appeared, of whom two were in favor of the proposed legislation and seven were opposed.

All the representatives appearing for steam railway and street railway companies favored the bill and emphasized the need for the regulation of motor bus operations. The representatives who appeared in behalf of commercial associations and manufacturers' organizations, such as the New York Merchants Association, were uniformly opposed to those provisions of the bill which proposed to regulate the competitive aspects of motor truck competition. Their attitude is well reflected in a recent committee report of the National Industrial Traffic League which states that the committee does not find any visible demand among shippers for legislative regulation of highway transportation and that the value of the motor truck depends upon its flexibility and freedom from restriction. Motor trucks, in the committee's opinion, should not be excluded from the highways except in the interests of public safety or because of the lack of financial responsibility or inability to give dependable service. The representations and arguments presented at that hearing are fairly typical of the general reaction whenever it is proposed to regulate these types of common carriers and this also may be said to typify in general the reactions which the Interstate Commerce Commission evoked in its more recent investigation.

The latest information on this subject indicates that the law requiring certificates of public convenience and necessity in order to operate common carrier motor vehicles is now in effect in forty states and the District of Columbia for the carrying of passengers and in only thirty states and the District of Columbia for carrying of goods or property. There are, accordingly, still nine states which have not taken any steps to regulate the competitive aspects of motor bus operation, and in addition to these nine there are ten others which have gone into the business of regulating busses but have not expanded their regulatory functions to include the common carrier motor truck.

It does not appear that this more extensive bus regulation and the less extensive regulation of the motor truck is due to the greater demands of the public to regulate busses as it is to the more urgent demand of other competitive transportation agencies. In many cases bus operators themselves have sought legislation containing the certifi-

cate of public convenience and necessity feature to protect them from the competition, actual or potential, of other motor bus operators. It is only in these states where a complete system of motor bus regulation is effective, restricting operations to those holding certificates of public convenience and necessity, that there has been an extensive consolidation of bus lines and where capital operating on a large scale has been willing to enter the field.

The trucks which operate for hire may be grouped into two main classes: (1) The contract carrier trucks which are operated under special agreements with one or more shippers and are not used to haul for the public generally. This class of carriers is well described in *Michigan Commission v. Duke, 266 U. S. 570,* where the Michigan authorities endeavored to enforce the provisions of their statute with respect to a motor truck operator who had entered into a contract to transport automobile bodies from Detroit to Toledo. Inasmuch as this operator had no other business and did not hold himself out as a public carrier the U. S. Supreme Court held that the facts under which he operated must control and that the law could not declare him to be a common carrier and subject him to the duties and burdens of that type of a transportation agency. (2) The so-called common carrier trucks which operate on a schedule over a regular route or between fixed termini and charge a definite schedule of rates.

The power to issue "certificates of public convenience and necessity" is granted by the legislature to state commissions which have the right to regulate common carrier motor vehicles. The passage of such laws indicates that the legislature has come to the conclusion that it should exercise its police power and place a restraint upon the unlimited operations of busses and common carrier trucks over given routes and put an end to the uneconomic competition of motor vehicles with each other and also with other transportation agencies.

This subject of public convenience and necessity is referred to more frequently in the case of motor vehicle common carrier administration of laws than in the case of the administration of regulatory law pertaining to other public utilities. Such provisions are also found in the laws regulating gas companies, water, electric, telephone companies, street railway and steam railroads. And that provision is also of great importance in the case of those utilities. But it has not become the chief battle ground of the cases brought before commissions.

In the 1927 *Public Utility Reports* which contain the more important of the decisions and orders handed down by the public utility commissions of the several states, there were printed and reported in full eighty-two cases relating to the actions taken by various state commissions with respect to matters brought before them under the common

carrier motor vehicle law; of this total number, seventy-seven cases dealt with the subject of public convenience and necessity, four cases dealt with the matter of service, and one case was devoted to the subject of reasonable rates of fares. This appears to bear out the statement that so far as the administration of the common carrier motor vehicle law is concerned almost all of the work of the commissions is given up to this public convenience and necessity phase of the situation.

It is not at all difficult to understand why this is so. The amount of capital which is required to enter the field of motor bus or motor truck operation is a small amount as compared with the capital requirements to undertake the promotion and construction of a railroad or a public utility. There are therefore numerous individuals and organizations ready at all times to enter this new type of an enterprise. Furthermore this type of a transportation agency is also still in the developmental stage. Pioneering work is continually being done in connection with the establishment of new routes and new services. As communities and states progress in their highway construction and improvement programs more and more potential bus and truck routes become available.

These cases cited above in which the problem connected with public convenience and necessity is paramount arise usually in two ways. A would-be operator files an application for a certificate authorizing him to operate a motor bus or a motor truck over a specified route. Under the law the commission to whom it is addressed makes an investigation, holds hearings if necessary, and makes a finding as to whether or not public convenience and necessity require this proposed operation. A great many of these commissions' cases are of this character. Another group of cases along similar lines are those inaugurated by complaints made to a commission that a certain specified operation is being carried on in an illegal manner in that no certificate of public convenience and necessity has been issued by the commission in control.

In about 60 per cent of the states the length of period during which this certificate is issued is for an indeterminate period. In about 30 per cent of the states the certificate is good for but one year. In other states there are varying periods: in Pennsylvania the certificate is good for two years, in North Carolina for three years, in Oregon for four years, and in Arizona for ten years.

In all of the states the administration is under the jurisdiction of the public service or public utilities commission, the same one which has jurisdiction over railroads, except in the two states of Kentucky, where there is a commissioner of motor transportation who administers the law, and West Virginia, where the law is administered by the state highway commission. When common carrier motor vehicle regulation was

considered in some of the states it was felt by some that the state boards or commissions whose duty it was to regulate rail common carriers might be prejudiced against the highway carriers and not give them fair consideration in passing upon questions of public convenience and necessity.

Where application is made for a certificate and opposition to its issue is presented, such opposition usually comes from a rail carrier, steam or electric, which claims that its line is being paralleled by the proposed highway carrier and that it is able under the circumstances and situation to render service which is adequate and satisfactory. Another type of objection may come from a highway carrier who is operating under a certificate and who contends that he is able to render all the service that can reasonably be required over the proposed route and that there is not sufficient business to warrant the establishment of another bus or truck service coming into competition with the one who was there first. In such cases the commissions generally deny the request or application in view of the fact that the proposed route is already covered by authorized motor vehicle common carrier service.

Where there are several contestants for a certificate over the same route commissions frequently state that the financial responsibility and operating experience of the applicants are important considerations in determining which one of the applicants is entitled to a certificate. But this is not the sole test. A great many of the commissions have taken the position that they will not grant certificates to independent bus and truck operators where the railroad companies operating parallel lines show a willingness to provide additional service where warranted.

The commissions are facing a rather difficult problem when it comes to deciding cases which involve the paralleling of a railway line by a motor bus or motor truck line even though these highway carriers are able to render a more convenient service in some respects than is being furnished by the railroad. Considerable testimony may be presented by the public as to the desirability of the more frequent passenger service which a bus line is able to afford. But the public when testifying in that manner is not choosing between the transportation service rendered as a whole by the rail carrier and the service rendered by the highway carrier. It is admitted in most cases of that kind that the communities involved and affected cannot and do not desire to do away with the rail service entirely and substitute for it common carrier highway service. The railroads still have a decided advantage in the transportation of heavy loading commodities over long distances and also of passengers, and for that reason there is no idea of substitution. And still it often is a fact that the competing highway carrier is capable of taking enough revenues away from the

rail carrier so as to endanger materially the adequacy of future service, if not its ability to continue operations. This is particularly true of many of the short lines of railroad which are not too prosperous at the best.

In states where railroads are allowed to operate highway carriers, directly or indirectly, so as to co-ordinate their service more satisfactorily they are obliged to obtain certificates of public convenience and necessity to operate motor busses or trucks the same as independent operators. Real difficulties are encountered in cases where railroad companies apply for certificates to operate busses and trucks over routes over which independent carriers are authorized to operate under certificates previously secured. Where rail carriers insist on entering the field under those conditions, it often makes it necessary for them to acquire through negotiation and purchase the rights or permits which are possessed by the highway carriers. Such situations would not arise if the railroads had not delayed too long in entering this new field of transportation and thus gave the independent operators opportunity to secure a firm foothold.

In cases of this character the West Virginia Supreme Court has ruled that "no permit to operate motor vehicles for hire should be issued by the State Road Commission until it is established upon a proper investigation that the privilege so sought by the applicant is necessary or convenient for the public, and that the proposed service is not then being adequately performed by any other persons, partnership, or corporation. The public policy of the state, as expressed in legislative enactments, requires that public utilities be given reasonable protection from detrimental competition. Wherefore, when an existing rail carrier is one of several applicants for the initial permit to operate motor busses over a highway between points served by the railroad of the carrier, and is fully qualified to render the additional service proposed, the State Road Commission should ordinarily give the preference to the carrier."

This case was appealed to the United States Supreme Court by the independent bus operator who applied for a writ of error and argued the case a month or so ago. After listening to counsel for the independent operators the court said it was not necessary to hear arguments on the part of the railway counsel and announced forthwith that the writ of error was dismissed "for want of a substantial federal question." That indicates how far state legislatures and commissions may go in this direction of protecting the interests and business of rail carriers in case they deem it advisable to inaugurate common carrier service over the highways.

The protests of railroads have received little consideration from

commissions where a motor bus company desired authorization to operate over a direct route between towns that are served by railroads by an indirect and considerably longer route requiring passengers to change trains and where poor time schedules have been in effect. In such cases it is generally held that the railroads are not capable of rendering the service to the public which public convenience and necessity demand.

Just what factors or elements are included in this term of public convenience and necessity have never been set forth in a comprehensive manner. One commission said that in passing upon such applications it must consider the convenience of the majority of the public rather than the few who might be convenienced by the inauguration of a proposed bus service which would compete with a railroad and thereby tend to reduce railroad patronage, causing carriers to remove trains.

It is of interest to inquire what standards the commissions use in applying this public convenience and necessity principle. What does the word "necessity" mean? That evidently is the key word. Because whatever is necessary is also convenient but not everything that is convenient is also necessary. From a study of the way in which commissions and courts have approached this subject, necessity does not mean indispensable, which is the dictionary definition. If that is what public necessity meant it would be difficult to show that any of the motor bus or motor truck routes should be granted certificates. The Illinois Supreme Court discussed this point and ruled on it in a case involving the construction and extension of a railroad when it said that "the word 'necessity' is not used in its dictionary sense of 'indispensably requisite.' If it were, no certificate of public convenience and necessity could ever be granted. The first telephone was not a public necessity under such a definition, nor was the first electric light. Even the construction of a waterworks system in a village is seldom necessary, though highly desirable. However, any improvement which is highly important to the public convenience and desirable for the public welfare, may be regarded as necessary."[1]

This much is clear. This simple standard of "public convenience and necessity" as found in motor bus and motor truck regulatory laws may become a very difficult standard when application has to be made in specific cases which are in controversy. There are some who hold to the theory that rail transportation is one type of a regulated monopoly and that common carrier highway transportation is another type of regulated monopoly, and that the two types have no relation to each other. In other words, that there should be unrestricted competition between rail and highway carriers. Such a theory, in my opinion,

[1] *Wabash C. & W. R. Co.* v *Commerce Commission*, 309 Ill. 412.

is untenable. Transportation as a whole, rail and highway, should be regarded as a regulated monopoly. If it is found, however, that the public would be better served between two points by highway carriers, whether they be bus or truck, a regulating commission should not prohibit such service simply because rail service was being furnished between the same two points. It is quite possible in such cases that a reduction in local rail service could be made and the highway carrier take its place and the public generally be better and more conveniently served. The rail carrier should be given the first opportunity to enter the field of highway service and co-ordinate it with its rail service. Many commissions are taking this attitude and there are also many railroads which are waking up to the fact that they must take an active interest in the development of common carrier service over the highways and bring highway service into a unity with their own. Highway service as rendered by busses and trucks is not something to be suppressed but every effort should be made on the part of legislatures and regulatory commissions and on the part of rail and highway carriers to develop a transportation service which will best meet the public needs and which will at the same time be maintained upon a sound economic and financial basis.

THE COMMERCIAL MOTOR VEHICLE AND THE PUBLIC

By M. H. Hunter

University of Illinois

I must begin this discussion with some explanation which may, in some degree, be in the nature of an apology. I have not had a chance to learn the contents of Professor Trumbower's paper, so I am hoping that I do not trespass upon the phases of the commercial motor vehicle which he has covered, and on the other hand, I am hoping he has established some of the premises upon which I shall want to build. Then, the time I have had for preparation has been all too short. Before I was invited to be the pinch-hitter in the rearranged program, I had so mortgaged my time that I have not had nearly the amount at my disposal that the topic warrants. In fact, had I not presented a report on commercial motor vehicle taxation at the last meeting of the National Tax Association, it would have been impossible to have been able to present anything at this meeting. Most of the ideas that I shall present come from that report, and I am more selfish than generous in making this presentation, for I have been continued as chairman of the Committee, and I hope through our discussion here to get ideas to guide me in my further study.

In its relation to any type of transportation, the public has assumed the attitude of fostering or conserving its own interest. It has shown a ready willingness to subsidize a private transportation agency if the needs of the public seemed to demand it, yet it has shown little disposition to recognize any vested rights in an existing institution which would hinder progress designed for public betterment. It is true there have been a few cases of the latter. In the state of New York, for example, a law was passed in 1848 (Chap. 140) which stated that any road paralleling or nearly paralleling any canal of the state, and within thirty miles of it, would be considered as diverting freight business from the canals, and that the same state tolls that would have been paid had the freight been transported by canal were to be paid by the railroad. Such instances are the exception and not the rule. On the other hand, every one is familiar with the vast tracts of public lands given to foster the development of the railroads and with the amounts of money raised by states and localities for the same purpose. All of this was enthusiastically endorsed in spite of the fact that it rang the death knell of most of the canal enterprises. The price of progress must frequently be paid by some previous adventurer—the type-setter paid with his

craft when the linotype was invented, and stone-cutting machinery almost displaced the cutting of stone by hand. The public has never felt that it should interfere with economic progress. Consequently, if commercial transportation should come so much in demand that other forms of transportation now in existence should become obsolete, the public would feel no obligation to extend assistance or protection, but would simply consider that the displaced methods of transportation are but paying the price of progress. Who knows but that in a few years the motor bus and the motor truck, as well as the private car, will be replaced by air vehicles, and that here again there will be a tremendous public and private loss chargeable to progress?

If the commercial motor vehicle is not a necessity, or at least not a convenience to the public, that is if existing agencies could perform the services just as well, then there is no reason for its existence, and any relation with the public would be an unwarranted one. If, however, the facts indicate that the commercial bus and truck do provide a service necessary or convenient to the public, then the problem remains to establish a satisfactory relationship between the carrier and the public. One can even conceive, should the evidence be strong enough in favor of commercial motor carriers, and should it show that existing carriers were a hindrance to their development, that it would be justifiable to force existing transport agencies out of existence. Everyone is familiar with the fact that before the advent of the national banking system, state bank notes supplied a large part of our currency. After the inauguration of the national banking system, these notes were considered a detriment, and were forced out of existence by a tax of 10 per cent.

The evidence as to the convenience and/or necessity of the commercial vehicle would lead to neither of the extreme conclusions suggested above. The conclusion is, however, that we must recognize commercial motor transportation as convenient to the general public, if not indeed necessary to its greatest economic development. Without going into detail, the substantiating evidence is somewhat as follows: Bus service is much more flexible in schedules, termini, and route than any other passenger agency; about one-third of the territory now served by busses has no rail service, either direct or indirect; the bulk of the truck service is of the short-haul type, making such shipments much more prompt and with less handling than if made by railroads; many of the commodities hauled by truck are of the perishable type, and the time element is important in getting these from producer to consumer; where costs have been accurately kept, it appears that the cost of motor transportation compares very favorably with that of other agencies.

Granted, then, that the commercial bus and truck are convenient and/

or necessary to the best economic interests of the public, what sort of relationship shall be established? It appears we have a complex situation. The government has built highways to meet a public need. These highways incidentally furnish a roadbed for commercial motor carriers, convenient and/or necessary to the welfare of the public. It would have been impossible for these carriers to have furnished the highways, yet the highways would have been built had there never been commercial trucks and busses. The question at once arises as to what exaction the public should make for this use of public property.

The situation is not entirely new, nor one for which we may not find some precedent in seeking a solution. It has been a general practice to require public utility operators to make some payment for the use of public property. For the privilege of using city streets, electric railways are frequently required to construct and maintain the paving between the tracks and for some distance on each side. Frequently, also, they are required to clean the streets, remove the snow, and provide a part of the lighting for streets. Telephone companies, heating companies, and water companies are generally required to make some payment for the use of public property. The best example of the generalization of this principle is found in the familiar special franchise tax of New York, in which the value of the use of public property is designated as real estate and is taxable as such.

The use of the highways by motor trucks and busses is similar to the use of public property by other types of utilities, but the problem is complicated by the injection of another well-established American principle. The governmental units undertake many services for the general welfare; yet, when individuals secure some measurable benefit therefrom, some charge is made to the individual. This charge has but seldom been based upon the cost of the service and usually has not varied with the value of the benefit to the individual. Of course, in paving streets, building sidewalks, and in other improvements where the special assessment is used, the cost of the project is one of the controlling factors in fixing the entire amount of the payment, while the payment of each individual is based upon the benefit to him. In the exaction of the great number of fees and licenses, however, the cost of the project plays but a minor role; neither is there much attempt to vary the amount in accordance with individual benefits. To measure the individual benefit, in most cases, would be impossible, so the method of procedure is to fix a flat fee or license charge. If the service is worth as much, or more than this, to the individual, he makes the payment; if it is not worth as much as this, he goes without the service.

The complexity of the problem before us arises from the fact that we have followed the policy of levying a charge upon the general motoring

public for the use of the highway, and we are now asked to formulate a plan which will place the commercial vehicle in proper relation with the remainder of the motoring public and with the public in general. While the amount and basis of levy varies greatly, every state levies a license upon motor vehicles. In no case is any definite attempt made to place the amount at the measure of benefit to the owner of the vehicle. In some states the fee has been set at a figure designed to meet the whole or a definite part of the costs of highway construction and maintenance. In many, the fee has been varied with the attempt to meet the costs that might be allocated to vehicles of a particular type. Thus horsepower, weight of vehicle, carrying capacity, and type of tire have all been taken into consideration as affecting costs and have been determining factors in fixing the size of the fee. The introduction of the gasoline tax, and it is now used in every state except Illinois[1] and New York, has changed, somewhat, the emphasis placed upon licenses. In some states, largely because the payment of a gasoline tax better measures benefit received from a highway than a flat license payment, the annual license has been greatly reduced. Here the reliance for revenue is now upon the receipts from the gasoline tax. While there are some administrative difficulties with the tax and some problems of allocation, no one seriously contends that it is not a payment on the basis of benefits, for, in general, the more use made of the highway the greater amount of gasoline consumed and the greater the tax.

It can be definitely stated that most states will levy both a license charge and a gasoline tax upon both the commercial and non-commercial vehicle. The question naturally arises whether any differentiation should be made between them in the levy. The answer rests largely on the basis of fact. The rate of levy can easily be the same for all passenger vehicles or all trucks whether or not operated for hire. To what extent a uniform gasoline tax will compensate for the maintenance or depreciation costs caused by weight, etc., is a problem for determination by engineers. After this has been determined, then the necessary variation in the license charge can be computed. Let us assume that, in general, the public convenience and/or necessity requires highway construction capable of carrying a weight of five tons under given tire specifications, etc. If additional weights are to be carried it will mean increased costs and maintenance, but this expenditure will be for the express benefit of the individuals receiving this service, and it will be perfectly proper so to place the charge upon the heavier vehicles that it will meet the increased cost of construction and maintenance attributable to them. It is conceivable that the charge might be so high as to be prohibitive,

[1] The two-cent tax which was adopted in 1927 was declared unconstitutional, not because of the principle of the tax, but because of the phraseology of the law.

if only a small number of heavier vehicles desired the privilege, but that would only be because the service to the operator was not commensurate with the cost, and would be entirely justifiable since returns to the public were not involved.

Within the limit of recognized public desirability, there exists an almost insurmountable difficulty of allocating costs of construction and maintenance and the impossibility of measuring benefits by payments. Because of this, one is led to inquire further as to a possible basis for the levy of a tax upon the motorist, both upon the motorist in general and upon the operator of commercial vehicles. The Motor Vehicle Conference Committee recently submitted a number of principles which should underlie the taxation of motor vehicles.[2] Two of these, at least, appear to be basic: "No highway should be improved by expenditure of public funds in excess of its earning capacity. The return to the public in the form of economical transportation is the sole measure of the degree of improvement. . . . . Irrespective of the particular form of special tax of the motor vehicle, whether registration fees or motor fuel taxes, the aggregate amount of these taxes in any one year should not be so great as to impose an undue burden on the individual motorist." The purport of the first proposition is that public welfare shall be the determining factor in highway construction and maintenance, and not the convenience of any individual. Under this premise, the construction of highways will be undertaken whether much or little revenue is secured from the motorist, for it is perfectly proper to undertake any service for the public welfare and make payment therefore from the general fund. The purport of the second proposal is that the tax on motor transportation, of whatever nature, shall not be so great as to be unduly burdensome. Combining the two proposals, we arrive at the conclusion that highways may properly be maintained as long as they are for the public good, and that the funds therefore should come from those sources which are most able to bear the burden.

As yet, in most states, much more attention has been given to a comparison between the amount paid by motor transportation to highway costs than between this amount and capacity to pay. There is no reason why motor transportation should not be considered as a possible base to supply revenue to the general fund just as is property, estates, corporations, or incomes. In some states, undoubtedly, motor transportation is able to meet more than the total outlay for highways, while in others it cannot possibly do it. In the one case, then, after costs of highways are met, there will be a surplus to go into the general fund of the state to be used for education or something else, because motor

[2] *Special Taxation for Motor Vehicles*, published by the Motor Vehicle Conference Committee, 366 Madison Avenue, New York City.

transportation is more able to meet this cost than is property or some other tax base. In the other case something must be taken from the general fund to finance the highways, because property, or some other base, is better able to do this than motor transportation. The point is, that highways are undertaken for the public welfare and that the costs should be met from those sources most able to make payment.

The practical application of the capacity to pay principle would necessitate no very great change in methods of taxation now in use, but might change considerably the emphasis. Granted that the levy might change from place to place and from time to time, no one would seriously contend that the present diversity of levy in the different states follows any attempt to arrive at capacity to pay. A change to this motive, however, might only mean a change in emphasis. The license would then be used for the regulatory features such as registration for license plate and the control over weight, type of tires, etc. In the exaction of some payment to measure specific benefits, a tax upon the amount of gasoline consumed will be more satisfactory than any other method, and to what extent a tax will be levied will depend upon how large it can be made without curtailing the sort of public welfare for which the highway was intended. When this is considered it could not be expected that the cents-per-gallon tax be uniform from state to state, but it would certainly be more uniform than at present.

The basis just indicated needs no particular modification when made to apply to commercial motor transportation. So far as it is a transporting agency using the highway it may be treated as any other highway usage. If it be decided to exact a high license to legalize the use of a heavy truck, it should apply alike to a truck operated by an individual in his business and to a truck operated for hire. Just as it should have similar treatment as an agent of transport, so it should have similar treatment as an earning agent. The fleets of trucks owned and operated by business concerns are partially responsible for earnings, which, either directly or indirectly, are a base for taxes. Instead of operating his own trucks, a business man may hire some one else to haul his goods. Here the transportation becomes commercial, but the income produced to the owner should have no more immunity from being a tax base than the income arising from any other form of business enterprise. The problem of taxing commercial motor transportation, in addition to that of taxing motor transportation in general, is but that of taxing productive business.

While such considerations as the above might materially aid in unraveling some of the tangles of taxation, they could not possibly solve all the problems of public relationship, which, after all, are the vital problems with which we are concerned. As in the case of railways and

other public utilities, taxation alone will not solve all the problems, and the only method by which the interests of the public can be adequately conserved will be through some form of regulation, and the problem of taxation cannot be separated from that of regulation. Indeed, at present, much attention is being given to regulation under the police power of the states. In the consideration of any regulation it must be borne in mind that the highways belong to the public and are primarily for the use of the public. Any use made of them by busses and trucks for private gain is an unusual use and the public, through its duly constituted authorities, has a right to condition such use in any manner it may see fit, even to prohibition. The aim sought is public welfare, and whenever it can be shown that there is a conflict between private interest and public welfare, the former must give way to the latter.

To determine what is the public interest is not always easy. It is difficult to say whether a bus line shall be allowed to supersede or supplement an electric line in a region where the traffic is not dense enough to support both. It may be to the public interest not to allow a bus or truck line to operate if by so doing it will destroy an already existing transportation system, the services of which are convenient and/or necessary, and which services the new form of transportation cannot give, or if it can give them, it cannot be reasonably expected to continue to give them. It is only through some form of regulation of motor transportation that the public can conserve the interest it has in already existing systems of transportation. In many cases it may be desirable to have electric or steam service supplemented by motor service. It may be desirable to allow or to require the existing systems to provide such service without competition from independent operators. The saving in costs, because barns, mechanics, overhead, etc., are not duplicated, may make it possible for the existing system to furnish the service at a more reasonable rate than if performed by an independent competing organization. This problem was raised and answered by the Supreme Court of Illinois in *Egyptian Transportation System v. Louisville and N. R. Co.* in which it set aside an order of the Illinois Commerce Commission which had granted a certificate for bus operation. The Court said:

"Railroads have permanent roadbeds and trackage which require an outlay of millions of dollars and which in turn yield large revenue to the people of the state. The average bus line is incorporated for a comparatively small sum. The railroad is of vastly greater financial responsibility. This is a matter of substantial public interest, particularly in cases of accident. It is the established policy of the law in this state that a public utility be allowed to earn a fair return on its investments. It is therefore not only unjust but poor economy to grant to a

much less responsible utility company the right to compete for the business of carrying passengers by paralleling its line unless it appears that the necessary service cannot be furnished by such railroad. Appellants offer to provide whatever increase in accommodations and service is deemed essential to meet the public convenience and necessity. It is but consonant with our law regulating public utilities that they should be given opportunity to do so. It is argued that appellants cannot give the necessary service except at a large loss. Such argument is beside the question involved in the proceedings before the Commission in this case. Appellants have stated that they are willing and able to give such service, and it appears clear that the Commission is not justified in granting a certificate of convenience and necessity to a competing line until the utility in the field has had an opportunity to demonstrate the truth of its statement and to give the required service."

In attempting to formulate principles upon which to base the regulation of motor transportation we encounter difficulties which are not found in connection with other carriers. The motor service, in fact, is of two almost distinct types—the common carrier service and the contract service. The common carrier is best exemplified in the operation of the motor bus, for it has been so developed and has become so consolidated that the routes are definitely fixed, termini are established, and a definite schedule of rates is in operation. Only a few give the contract type of service; that is, operate upon contract with an individual to perform a special service. With the motor truck the reverse condition exists. There are but few regular lines operating for the public, and in general, the business is not well organized. The greater part of the trucking business is by the owners of one or a few trucks who contract to haul goods for individuals, but who do not do a common carrier business. The owner of a truck is likely to haul a load of goods for one individual to one place today and for another individual to another place tomorrow. While in general, the distinction between the common carrier and the contract carrier is clear, there are many cases in which it is difficult to make a satisfactory distinction.

Motor transportation by busses and trucks, and especially that by trucks, is essentially local in character, and from any indications at present, it will continue so to be. Near state boundary lines, however, there is considerable mutual crossing of busses and trucks, and this introduces the problem of interstate commerce. As this crossing of boundaries developed, the state regulatory commissions, with the consent of the state courts, extended their jurisdiction over these interstate carriers even to the extent of granting or withholding certificates of convenience and necessity. The position taken was that the traffic was essentially local and regulation had not been attempted by the federal

government; that such regulation was a valid exercise of the police power, and that the public could best be served by thus protecting the roads from heavy vehicles by relieving congestion through the limitation of vehicles, and through the persecution of cut-throat competition.

The Supreme Court failed to acquiesce in the views of the Commissions and lower courts.[3] Since the granting of a certificate of convenience and necessity is not regulation with a view to safety or to conservation of the highways; since it does not determine the manner of use, but the persons by whom the highways are used; and since it is beyond the power of the state to convert property used exclusively in the business of private carrier into a public utility or to make the owner a public carrier, the granting of a certificate of convenience and necessity does not come under the police power. Any attempt by a state to require such a certificate from an interstate carrier is therefore repugnant to the Commerce Clause. The results of this decision have been a rapid extension of interstate carriers, some of them by subterfuge to escape state restrictions; an attempt to secure federal legislation which will authorize regulation; and an investigation and recommendations by the Interstate Commerce Commission. As yet nothing tangible has been accomplished, although several bills designed to meet the problems were introduced in the Sixty-ninth Congress.

It is not our purpose here to analyze the report of the Interstate Commerce Commission or the bills which were before Congress. Again let attention be called to the fact that the issue paramount in importance in either taxation or regulation is the public welfare, and whatever legislation is undertaken must be justified on that basis. With this in mind we may suggest a few things the public has a right to demand of commercial motor carriers and that should be taken into account in the formulation of legislation.

1. The interest of the public in existing steam and electric lines should be conserved, and motor transportation so co-ordinated with these as to develop the most efficient and economical transportation system possible.

2. Since motor transportation, even though partially interstate, is essentially local, the Interstate Commerce Commission should be burdened to the least possible extent in providing any needed regulation. State bodies already in existence have demonstrated their ability to function with little additional cost to the public. The present need, since the Supreme Court decisions, is to delegate to these state bodies power to handle such cases of interstate commerce as may arise. The

[3] *Michigan Public Utilities Commission* v. *Duke*, 266 U. S. 570, and *Buck* v. *Kuykendall*, 267 U. S. 307.

right of original jurisdiction may be left with the Commission to deal with interstate cases, as well as the right of appeal to it.

3. The public has the right to demand the assurance of the good intent and financial responsibility of every operator of motor vehicles for hire. This can be accomplished by requiring each operator to file a surety bond at the time an application is made for a license to operate.

4. All common carriers should be required to secure certificates of convenience and necessity. At present this would apply almost entirely to operators of motor bus lines since very few operators of trucks fall in the common carrier class. Since there is no monopolistic tendency among contract carriers, the interest of the public can be adequately conserved by requiring evidence of good intent and financial responsibility as suggested above. Competition among carriers will insure a reasonable charge for the service rendered. With the common carrier operator, however, it is only through the use of the certificate of convenience and necessity that the public interest in existing systems of transportation can be conserved, and that it can be assured of adequate and continuous motor transportation.

Undoubtedly we are approaching a new era in the regulation of commercial motor transportation. In the words of Commissioner Woodstock of the Interstate Commerce Commission, however, we should "hasten slowly" in adopting extensive regulatory measures. It is not to be expected that the ultimate plan and policy can be inaugurated in the beginning. The extent and form of regulation can only be determined by experience and as the development of the transportation indicates the extent to which regulation is needed to conserve the interest of the public.

The relation of the commercial motor vehicle to the public will be established through a combination of taxation and regulation, and these are inseparably linked together. With the regulation necessary to ensure the public welfare, then the problem of taxing commercial motor transportation becomes but a part of the problem of taxation in general. It is the problem of deciding how large a tax burden the industry can bear without curtailing the services which are necessary and/or convenient to the public.

COMMERCIAL MOTOR TRANSPORTATION—DISCUSSION

WILLIAM M. DUFFUS.—Professor Trumbower and Professor Hunter have demonstrated two facts, among others: first, that there is a need for a comprehensive, farseeing public policy in respect to commercial motor transportation and, second, that the need is not yet met.

Public authorities must, indeed, "hasten slowly" in attempting to meet this need and students of transportation should be reasonably tolerant of the uncertain and necessarily experimental character of the results. But we may urge that serious consideration be given to the fundamental principles which, in our opinion, ought to apply.

One of the most important of these principles, it seems to me, is that "public demand," or the lack of "public demand," for governmental intervention in the field of transportation is an unsafe criterion of what government—state, municipal, or federal—ought or ought not to do. We would not, for example, judge the wisdom of the Transportation Act of 1920 on the basis of the popular demand for the rate-making or the consolidation provisions of the Act. Public willingness to support or acquiesce in a governmental policy is, of course, a different matter and one that does have a very definite bearing on what ought to be done because it limits what can be done. Using the Transportation Act again as an example, we note that that measure recognizes the prevailing popular aversion to government ownership on the one hand and to government-guaranteed earnings for private enterprise on the other.

The history of governmental intervention in the field of transportation in the United States shows that the public, or the articulate portions of it which influence governmental action, have never, with one or two possible exceptions, viewed the problems of transportation as a whole nor given any encouragement to any attempt so to view them. The explanation, no doubt, is that our collective citizenry, which we are pleased to call "the public," is incapable of such action, first, because it is made up of groups with widely divergent and often sharply antagonistic interests and, second, because each of these groups is so intent upon having its own way in the immediate future that it frequently fails to take a comprehensive or long-time view of even its own special interests. The result necessarily is that legislation and regulation in the field of transportation (as I suppose is true in most other fields) are made up of a series of compromises. If there is wisdom in these compromises it is sometimes due to pure accident and sometimes to capable leadership in the executive or legislative departments of government.

The advent of motor transportation, the beginnings of commercial air transportation, and the active agitation for large government investment in inland waterways are so increasing the complexity of transportation problems as to make imperative a greater reliance for their solution on

governmental initiative and less upon accidental agreements among conflicting interests.

A second principle which should govern the formulation of public policy in respect to motor transportation is that no form of transportation can be effectively regulated except in the light of its relationships, actual and possible, desirable and undesirable, with other forms of transportation. Professor Trumbower and Professor Hunter have made this so clear with respect to the relationships between commercial motor vehicles and the railroads that I shall pass on to the third principle without further comment.

This principle is an extension of the second from the sphere of regulation to that of taxation. No form of transportation, to state it tentatively, can be equitably and expediently taxed except in the light of its relationships with other forms of transportation. Professor Hunter has applied this principle to the taxation of commercial and non-commercial motor vehicles. I am sorry that the time at his disposal did not permit him to apply it to the taxation of motor vehicles as related to the taxation of railroads.

The railroads have been protesting for some years that the taxes levied upon them are not only excessive but unjustly discriminatory as compared with the taxes levied upon motor vehicles. Railroads, so the complaint runs, not only have to provide and maintain their own highways but they have to pay taxes upon them as well as upon the rolling stock and structures used in connection with them. Motor vehicles, it is alleged, pay only part of the cost of constructing and maintaining highways for their use and frequently, it is claimed, revenue from railroad taxes is employed with other public funds to make up the difference. The railroads object to this on the ground that they are thus compelled to help provide highways for the use of their competitors. Spokesmen for the commercial motor vehicle interests, on the other hand, point to the huge aggregate of taxes and fees paid by motor vehicle owners in the United States and insist that these burdens are almost too great to be borne.

It seems clear that if our transportation agencies are to be nicely adjusted to the economic necessities of the situation taxes should be levied upon the various agencies of transportation in such ways as will avoid both undue encouragement and undue discouragement to any form of transportation. What are the facts with respect to the conflicting claims of railroad and motor vehicle spokesmen? If there is undue discrimination against either group of interests what can be done about it and what ought to be done about it?

The fourth principle that should be borne in mind in formulating public policy with respect to commercial motor transportation is suggested by Professor Trumbower's reference to the difference which he sees in the theories underlying the enactment of the state and federal laws providing for the regulation of railroads and the enactment of the state laws establishing the regulation of public utilities as distinct from railroads. The railroad laws, Professor Trumbower says, "were enacted upon the theory that competition between railroads should be encouraged" while "the 'regulated monoply' idea . . . . constitutes the keystone of public utility

regulation." Most of us were probably taught in our first general survey course in economics that "the regulated monopoly" idea was the keystone of both railroad and public utility regulation. The fact is that our legislative bodies, while recognizing the existence of monopoly tendencies in the railroad business, cling very tenaciously to the idea that these tendencies are checked and should be checked, to a considerable extent, by a lively competition within the business which is preserved, rather than destroyed, by government regulation of rates, and which promotes the progressive improvement of service. Witness the injunction of the Transportation Act to the Interstate Commerce Commission to work out its plans for consolidation of railroads so that "competition shall be preserved as fully as possible."[1] The legislative attitude with respect to the wholesomeness of competition within the railroad business is carried over to competition between the railroads and other common carriers. The Transportation Act, to cite it once more, declares it to be "the policy of Congress to promote, encourage, and develop water transportation, service, and facilities in connection with the commerce of the United States, and to foster and preserve in full vigor both rail and water transportation."[2] Legislative bodies, so far as I know, have not made similar declarations with respect to commercial motor transportation but this may be due to the fact that motor transportation has developed spontaneously without governmental assistance except in the building and maintenance of highways.

We may now attempt to state the principle for which we are seeking. Perhaps we can put it this way: In regulating transportation, governmental agencies should not consider either monopoly or competition as good per se but should stand ready to restrain or promote either as such action seems calculated to make for progress. It may be necessary in applying this principle to limit or forbid commercial motor vehicles from competing at all in some cases with established carriers by rail while in others it may be highly desirable to permit competition as a matter of experiment or even as a matter of permanent policy. The best results may perhaps be attained if, as Professor Trumbower suggests, "transportation as a whole, rail and highway," is "regarded as a regulated monopoly" and the existing rail carrier is "given the first opportunity to enter the field of highway service and co-ordinate it with its rail service." If, however, the existing rail carrier is unable or unwilling to grasp this opportunity and a new motor vehicle common carrier is permitted to operate, either with or without a certificate of convenience and necessity, the rail carrier may be able to choose between competition with the motor carrier or complete withdrawal from that portion of the field upon which the latter has entered. Detailed study of representative cases of rail and motor competition arising in this way might prove that a substantial amount of such competition can and does exist in some circumstances without detriment to the best interests of transportation service as a whole. Is this not true, for example, in

[1] Interstate Commerce Act, section 5, as amended by the Transportation Act.

[2] Transportation Act, section 500.

metropolitan areas where motor busses and taxicabs now compete more or less with existing rail lines, steam and electric, for the transportation of passengers? Is it not also true, in some cases, in interurban and rural areas, where railroads, steam and electric, and motor vehicles operate between common terminals but offer different kinds of service on different time schedules and over more or less divergent routes?

Most students of transportation will agree, I think, with Professor Trumbower and Professor Hunter that there must be some sort of central planning looking towards the co-ordination of our various transportation agencies on a sound economic and financial basis. Government—state and federal—must necessarily have a controlling part in whatever central planning is done but agreement on this principle does not commit us to any one definite policy nor to any given degree of governmental intervention.

In his statement of the principles which should prevail in the formulation of legislative measures for the control of motor vehicle carriers Professor Hunter has probably expressed the dominant opinion among students of the subject. This assertion is supported by existing state, and proposed federal, legislation.

I see no reason for questioning either the "public convenience" or "necessity" of appropriate measures to insure the fullest possible degree of financial and moral responsibility on the part of all carriers for hire. The risks of personal injury and loss of life, of loss, theft, or damage of goods, and of expensive delays resulting from accidents and moral or physical (equipment) breakdowns and failures in motor vehicle transportation are too great to be assumed by individual passengers and shippers.

I do not think, however, that we should accept without discussion, the doctrine stated by Professor Hunter that "all common carriers should be required to secure certificates of convenience and necessity."

The certificate device was developed as a measure of control over public utilities and railroads. It was intended to prevent reckless, uneconomical, and piratical duplication of existing public utility or railroad systems able and willing to give adequate service. It was introduced only after long experience with the wastes of unchecked or partly checked competition in industries requiring heavy fixed capital investment. It was applied to cases in which one railroad proposed to duplicate, to a greater or less extent, the service offered by another or in which one utility proposed to do the same in respect to another utility of the same type. If we exclude the border-line cases of competition between steam railroads and electric railroads, I think that it is safe to say that the certificate device was not intended to prevent or restrict competition between substitute services and that it has rarely, if ever, been so used except as a restraint upon commercial motor transportation. A new gas utility will not, for example, be denied a certificate of convenience and necessity because it intends to compete with an established electric utility for certain classes of business nor will a certificate be denied the electric utility if the circumstances are reversed.

Professor Trumbower has pointed out that the urge for the extension of the certificate requirement to the field of motor transportation has come from vested interests in transportation who were fearful of the results of the new competition. In one state, to add to the list of proponents mentioned by Professor Trumbower, the railway brotherhoods joined with their employers in supporting the measure after first championing the absolute prohibition of common carrier motor vehicle competition with the railroads.[3]

The fact that the certificate requirement has been written into law largely on the initiative of private interests does not, of course, prove the measure either unfair or unwise. Long experience with protective devices adopted to protect this or that private interest against a trade menace resulting from progress in the industrial arts does, however, warrant the most searching scrutiny of all such proposals.

I do not believe that the certificate requirement for common carrier motor vehicles received the study which it deserved before being written into law by our legislative bodies. Was it not adopted in most states largely as a matter of routine on the advice, or with the approval, of overburdened utility commissions who followed the lines of least resistance?

Regardless of the history of the measure, is there not danger that it will be administered along the lines of least resistance? Who raises the biggest and most effective howl—the established carrier fearful of loss of business now his or the prospective immigrant into the field who is hopeful of ultimate success at the expense of the *status quo* if given a speculative chance? Who is most likely to receive the sympathy of the courts in test cases? Who does receive it, as a matter of fact?

Suppose our state utility commissions were made so strong in membership, expert staff, and resources as to command the unreserved approval of the speakers at the public utility session of last evening. Could commissions so equipped forecast accurately the proper economic sphere of motor transportation? Would they leave reasonable opportunity for experimentation and show reasonable tolerance of the necessary costs of progress?

When our state commissions have settled the difficult questions of competition and co-ordination as between rail carriers and common carrier motor vehicles on the land and as between different groups of common carriers by motor vehicle, will they then be called upon to forecast the future of transportation through the air?

Returning to earth, how do the commissions find out how many common carrier motor vehicle enterprises are needed to insure best results? What sort of cost analyses do they make with respect to the relative economies of large- and small-scale operations when they decide to encourage or discourage competition among common carrier motor vehicles?

The foregoing questions have been asked on the assumption that the

[3] In the discussion from the floor which followed the reading of this paper a representative of one of the railway brotherhoods explained that the brotherhoods feel that the standard of living and the working conditions of some of their members are seriously menaced by the competition of unorganized, poorly paid motor vehicle workers. If the conditions are as described they should receive consideration in the formulation of public policy.

requirement of certificates works effectively to restrict competition. To what extent is this assumption true? As a matter of fact, has not the ease with which the certificate requirement can be avoided by operating as a private operator or as a private contract carrier rendered the requirement largely futile?

Are we not fortunate if this is the case? Would as much progress have been made as has been made in the division of labor between railroads and motor vehicles if commissions had had power to restrict competition between motor vehicles as a whole and the carriers by rail?

In conclusion, may I say that these questions are raised for the sole purpose of provoking discussion and investigation and with no intent of suggesting even tentative answers.

MINUTES OF THE BUSINESS MEETINGS OF THE AMERICAN ECONOMIC ASSOCIATION HELD AT CHICAGO, ILLINOIS, DECEMBER 26-29, 1928

The first business meeting of the American Economic Association was held at the Stevens Hotel, Chicago, Illinois, December 27, 1928, at 9:00 A.M., with President Taylor presiding.

The minutes of the December 30, 1927, meeting were approved as printed in the *Proceedings of the Fortieth Annual Meeting*, pp. 268-270.

The followings reports were read and adopted:

(1) The Secretary,[1] by Mr. Deibler.

(2) The Treasurer,[2] by Mr. Deibler.

(3) The Auditing Committee,[3] by Mr. Deibler for Mr. Eric Kohler.

(4) The Finance Committee,[4] by Mr. Deibler for Mr. C. H. Crennan, Chairman.

(5) The Managing Editor,[5] by Mr. Dewey.

(6) Report of the representatives to the American Council of Learned Societies,[6] by Mr. W. F. Willcox.

Voted: To receive the report from the Joint Census Advisory Committee and instruct the Secretary to print such portions of this report as seems of interest to the membership of the Association.[7]

Voted: That the report of Professor Seligman on the progress made on the *Encyclopaedia of the Social Sciences* be received and the Secretary instructed to print such portions as are of interest to the membership.[8]

Voted: That the following persons be named as a Committee on Resolutions: Z. C. Dickinson, Chairman, W. F. Willcox, and W. H. Kiekhofer.

Adjourned.

The second business meeting of the American Economic Association was held at the Stevens Hotel, Chicago, Illinois, December 29, 1928, at 9:00 P.M., with President Taylor presiding.

The minutes of the meeting of December 27, 1928, were read and approved.

The following reports were read and approved:

(1) Professor E. E. Day gave an oral report for the Social Science Research Council, calling attention to the work of the Council which is described in detail in the *Annual Report* of the Council.[9]

(2) Professor L. C. Marshall for the committee co-operating with the American Association of Collegiate Schools of Business on Research Surveys reported progress.

[1] See page 253.
[2] See page 258.
[3] See page 260.
[4] See page 264.
[5] See page 265.
[6] See page 269.
[7] See page 267.
[8] See page 271.
[9] See page 274.

(3) Professor Davis R. Dewey for the Committee on Honorary Members, recommended that the following persons be elected: Professor Josef A. Schumpeter, University of Bonn; Professor Werner Sombart, University of Berlin; Dr. Sidney Webb, London School of Economics; and Professor Gustav Cassel, University of Stockholm. The report was approved and the Secretary instructed to add the names to the list of honorary members of the Association.

(4) A brief oral report was made by Professor D. R. Dewey on the new *Abstract Journal of the Social Sciences*. The publication of this new *Journal* will modify the *American Economic Review*, and the space heretofore devoted to abstracts will now be devoted to other purposes.

The Secretary read a list of invitations for the place of holding the next meeting. After some discussion indicating the preferences of the members present, the question of determining the time and place was referred to the Executive Committee with power.

Professor W. F. Willcox reported for the nominating committee the following list of names:

For President: Edwin F. Gay, Harvard University.

For Vice-Presidents: W. M. Daniels, Yale University, and Waddill Catchings, New York City.

For Secretary-Treasurer: Frederick S. Deibler, Northwestern University.

For members of the Executive Committee: E. L. Bogart, University of Illinois, and R. T. Ely, Northwestern University.

For members of the Editorial Board: Sumner H. Slichter, Cornell University, and I. L. Sharfman, University of Michigan.

For the Program Committee: Max S. Handman, University of Texas.

For the American Council of Learned Societies: W. F. Willcox, Cornell University.

For the Social Science Research Council: Alvin Johnson, Columbia University.

There being no additional nominations, the above nominees were unanimously elected.

Professor Z. C. Dickinson reported for the Committee on Resolutions as follows:

WHEREAS, The arrangements and facilities for holding the sessions of the annual meeting of this Association have been so highly satisfactory and handled in such a courteous manner; therefore be it

Resolved, That the thanks of the officers and members of the Association be tendered by the Secretary to Professor James W. Bell, Chairman, and other members of the Committee on Local Arrangements, to Dr. Rudolf A. Clemen, who handled the publicity in such an efficient manner, and to the management of the Stevens Hotel for the very ample accommodations and the cordial treatment in all matters pertaining to the conduct of the meetings.

(Signed) W. H. KIEKHOFER
W. F. WILLCOX
Z. C. DICKINSON, Chairman

REPORT OF THE SECRETARY OF THE AMERICAN ECONOMIC ASSOCIATION FOR THE PERIOD ENDING DECEMBER 15, 1928

In reporting the activities of the Association during the present year, I am including the minutes of all meetings of the Executive Committee held during the year, as follows:

(1) Minutes of the First Meeting of the 1928 Executive Committee.

The first meeting of the Executive Committee of the American Economic Association for the year 1928 was held in Hotel Washington, December 30, 1927, at 1:00 P.M. There were present: Ex-President Adams, presiding, and Messrs. Day, Deibler, Dewey, Kemmerer, Kiekhofer, and Ruggles.

Voted: To appoint Professor George E. Barnett to the Joint Census Advisory Committee in place of Allyn A. Young, whose term expired December, 1927.

Voted: To appoint Edward A. Harriman, Washington, D. C., as counsel for the year 1928.

Voted: To appoint David Friday as representative of the American Economic Association on the National Bureau of Economic Research.

Voted: To authorize the Secretary to publish the *Handbook* during the year 1928, and to fix the price at two dollars per volume.

Voted: To instruct the Secretary to consult with Professor Meeker and Mr. Ethelbert Stewart, U. S. Commissioner of Labor Statistics, as to the purport of Professor Meeker's resolution calling for a new survey of the cost of living, and to lay the facts found before the Executive Committee at its next meeting.

Voted: To refer to next meeting of the Executive Committee the request of the Bureau of Research and Education of the International Advertising Association for the appointment of a committee of three to serve on an Advisory Board of the said Bureau of Research.

Adjourned.

(2) Minutes of the Second Meeting of the 1928 Executive Committee.

The second meeting of the Executive Committee of the American Economic Association for the year was held at the Michigan Union, Ann Arbor, Michigan, April 14, 1928, at 10:00 A.M. There were present: President Taylor, presiding, and Messrs. Adams, Day, Deibler, Ely, Kiekhofer, McVey, and Ruggles.

In connection with a resolution presented by Dr. Royal Meeker, requesting the co-operation of the American Economic Association in securing support of the proposal of the United States Bureau of Labor Statistics to make a new family budget survey, the following resolution was adopted:

WHEREAS, The latest official cost of living study by the United States Bureau of Labor Statistics was made in 1918 and 1919, when prices were rapidly rising toward the peak, and, as a consequence, consumption habits of the workers and people generally were much disturbed, and

WHEREAS, The results of this study do not now give a true picture of the income and expenditures of the American worker's family, owing to obvious changes in wage rates and especially in consumption habits; therefore be it

Resolved, That the Executive Committee of the American Economic Association feels that a new family budget survey is needed, in order to make cost of living figures reflect more accurately present day conditions, and that it authorizes the officers, without committing the Association financially, to co-operate with the Bureau of Labor Statistics in securing an adequate appropriation to carry forward this work.

The Bureau of Research and Education of the International Advertising Association requested the appointment of three members from the American Economic Association to serve on an advisory council of the former body.

Voted: That since it is contrary to the established practice of the American Economic Association to participate officially in investigations of this character, the Secretary be instructed to express to the officers of the International Advertising Association the sincere wish of the Executive Committee that the proposed project be successful, and to suggest that the officials of the Advertising Association can doubtless find individual economists who will be willing to serve its purposes without official appointment by this Association.

The Committee appointed to co-operate with a similar committee of the Collegiate Schools of Business in making a survey of research, submitted the following issues for the consideration of the Executive Committee:

1. Would the Executive Committee look with approval upon an arrangement which provided for a supplement of the *American Economic Review*—this supplement to take the place of the present list of doctoral dissertations in progress and to provide a bibliography of all research in progress in economics and business?

2. In case the Executive Committee feels that such an arrangement is at least a discussible arrangement, what financial aid would the American Economic Association have to receive from the Association of Collegiate Schools of Business in order to make the arrangement possible?

3. Has the American Economic Association an organization which could take on the task of securing this entire bibliography or would some other organization have to be set up for this task?

Voted: That the Executive Committee was favorably disposed to the proposal, provided it be found to be financially feasible to publish the results of the survey.

Voted: That Professor Dewey, the Managing Editor of the *Review*, be added to the Committee and a sum not to exceed one hundred dollars be appropriated as an aid in defraying the expenses of a preliminary survey.

Voted: That the Program Committee make itself acquainted with the results of the Research Survey and give due consideration to such research projects, particularly by younger men, in arranging the program of the annual meeting.

Voted: That the request of the American Council Institute of Pacific Relations for the consideration of Oriental questions be referred to the Program Committee.

Voted: That the President, the Secretary, and the Managing Editor of the *Review* be instructed to take under consideration the establishment of an official office of the Association in Washington, D. C.

Voted: That the Secretary express the interest of the Executive Committee in the proposal of the American Council of Learned Societies to give general publicity to the activities of the affiliated societies and its willingness to co-operate by furnishing suitable material from time to time. The Committee was of the opinion that the Association was not in a position to make an appropriation for this purpose at this time.

Voted: That the Social Science Research Council be furnished with copies of the current publications of the American Economic Association.

Voted: That the Secretary be requested to bring in a suitable recommendation in behalf of members who have long maintained their affiliation with the Association, but who, because of retirement from active work or other vicissitudes, feel constrained to withdraw from the Association.

Voted: To instruct the Secretary to communicate with the Secretaries of the societies that regularly meet with the American Economic Association, advising them that the Executive Committee of the American Economic Association favors Chicago as the place for holding the next annual meeting because of its superior railway facilities and hotel accommodations. But, in deference to the preferences already expressed, a new canvass of the Secretaries be made and, if the majority still favor Detroit, that the meetings be held in that city.

Voted: That the date of the meetings be from Wednesday, December 26, to Saturday noon, December 29, 1928.

Voted: That the appointment of the Committee on Local Arrangements be left to the President and Secretary.

Adjourned.

(3) Minutes of the Third Meeting of the 1928 Executive Committee.

The third meeting of the Executive Committee of the American Economic Association was held at the Stevens Hotel, December 27, 1928, at 4:30 P.M. There were present: Professor Allyn Young, presiding, and Messrs. Adams, Day, Deibler, Dewey, Ely, Kiekhofer, and Ruggles.

Voted: To grant to the members of the Frederick List Gesellschaft the same privileges as those granted to members of the Royal Economic Society; namely, to purchase books at reduced prices.

Voted: To lay the question of a central office in Washington on the table and to discharge the Committee.

Voted: That the Secretary be authorized to continue as members those who have long been affiliated with the Association, but who find it difficult to maintain their membership upon retiring from active service.

Voted: To grant the request of Professor Seligman for a complimentary copy of the *American Economic Review* during the next few years for the *Encyclopaedia of the Social Sciences.*

Voted: That the requests of the London School of Economics Library be referred to the Secretary and Managing Editor with power.

Voted: That the Secretary be authorized to dispose of surplus stock of back numbers and to junk old *Handbooks* in excess of numbers necessary for complete sets.

Voted: That the President be authorized to appoint a committee of three on translations and reprints.

Voted: To express to the American Council of Learned Societies an interest in the proposal for a central administration of permanent funds, but that the American Economic Association does not at the present feel the need for such a service.

Voted: To appoint John E. Walker of Washington, D. C., Counsel for the year 1929.

Voted: To reappoint Walter F. Willcox as a representative on the Joint Census Advisory Committee.

Voted: To reappoint David Friday as a representative to the National Bureau of Research.

Adjourned.

As a part of the work of the Association, the following items of business are reported from this office:

(a) During the year the arrangements with the Royal Economic Society, with the Pollak Foundation, and the Adelphi Publishing Company were continued by which members of the Association could secure a number of books from these sources at reduced rates. Circulars containing information concerning these books have been forwarded to the members of the Association.

(b) A special letter concerning the *Encyclopaedia of the Social Sciences* was also forwarded to members from this office.

(c) The *Proceedings* of the last convention were edited and published as a supplement to the March issue of the *Review,* and, in addition, the *Handbook,* with names and addresses of all members and subscribers, was published as a supplement to the June number of the *Review.*

(d) The Secretary attended a meeting of the secretaries of the constituent societies of the American Council of Learned Societies. Matters of

common interest and common problems that come before a learned society were discussed. One matter of general interest was the request made of the Executive Secretary of the American Council of Learned Societies to collect and make available information concerning the processes of reproducing out-of-print material. A report on this topic can be found in *Bulletin No. 8,* pages 11-15 (October, 1928), of the American Council of Learned Societies.

During the year President Taylor made the following appointments:

Miss Grace Zorbaugh as representative to the American Home Economic Association.

Committee on Local Arrangements, James W. Bell, C. H. Crennan, H. A. Millis.

Auditing Committee, Eric L. Kohler, C.P.A., and Harry P. Baumann, C.P.A.

Nominating Committee, Thomas S. Adams, W. F. Willcox, W. H. Kiekhofer, E. M. Patterson, H. A. Millis, and D. R. Scott.

Committee on Honorary Members, Davis R. Dewey, Clive Day, L. C. Marshall, J. M. Clark.

The following table shows the present status of the membership and the changes that have occurred during the year ending December 15, 1928, the date of closing the books of the Association.

Members and subscribers in December, 1927			3507
Annual members in December, 1927		2562	
Members resigned in 1928	125		
Members removed for lack of address	34		
Members dropped for nonpayment of dues	94		
Annual members died	24	277	
		2285	
New members in 1928		335	
Total annual members in December, 1928		2620	
Life members in December, 1927	86		
Life members removed in 1928 (died)	8		
Total life members in December, 1928		78	
Honorary members in December, 1927	16		
Honorary members removed in 1928 (died)	4		
Total honorary members in December, 1928		12	
Total members in December, 1928		2710	
Subscribers in December, 1927	843		
Subscribers discontinued in 1928	104		
	739		
New subscribers in 1928	165		
Total subscribers in December, 1928		904	
TOTAL MEMBERS AND SUBSCRIBERS IN DECEMBER, 1928			3614
Net Gain			107

There has been an increase during the year of 46 members and 61 subscribers, or a total of 107.

The Secretary wishes to take this occasion to express his appreciation of the co-operation received from a large number of members, who have sent nominations to this office. The continuation of this co-operation will make the maintenance of the membership of the Association a very easy task.

During the year the death of the following members has been reported and their names have been removed from the mailing list.

Summerfield Baldwin (Life Member)
William P. Bancroft
Robert Batcheller
W. A. Briggs
George A. Buckstaff
Arthur C. Dill (Life Member)
Garrett Droppers (Life Member)
William C. Ferguson (Life Member)
James A. Field
H. C. Frame
John M. Glenn
Elmer C. Griffith
Yves Guyot (Honorary Member)
David M. Halfant
Mrs. C. Stedman Hanks (Life Member)
Anselm V. Hiester
Joseph E. Hitchcock
John M. Keith
Francis W. Kelsey (Life Member)
R. Brent Keyser
Alvin W. Krech
M. L. Morgenthau
Arthur J. Ogaard
Yeijiro Ono
Maffeo Pantaleoni (Honorary Member)
Russell Robb (Life Member)
William C. Sanger (Life Member)
Charles O. Scull
James W. Searson
Benjamin Strong
Benjamin J. Taussig
Joseph H. Underwood
Charles H. Verrill
Knut Wicksell (Honorary Member)
Friedrich von Wieser (Honorary Member)
Edward A. Woods

Respectfully submitted,

F. S. Deibler,
Secretary.

REPORT OF THE TREASURER OF THE AMERICAN ECONOMIC ASSOCIATION FOR THE PERIOD ENDING DECEMBER 15, 1928

The report of the Treasurer is based upon the figures contained in the report of the Auditing Committee. Some interpretation of these figures will assist the membership in understanding the financial operations of the Association for the current year.

There was an increase of $159.34 in income over the previous year. The membership dues remained approximately the same, with a small increase in interest from investments.

The prepaid dues and subscriptions show an increase of $263.74, which is partly explainable by the five extra days in the period covered by the audit (December 10, 1928—December 15, 1928).

Following the instructions of the Executive Committee, the Managing Editor and the Treasurer negotiated a new printing agreement with The George Banta Publishing Company at Menasha, Wisconsin. The making of this new contract necessitated the shipment of all the back numbers of the publications and a few supplies of the Association to the new printer. The Association is deeply indebted to Professor George G. Groat of the University of Vermont, who undertook the task of supervising the boxing and shipping of this material. The size of this task calls attention again to the need for a permanent headquarters for the Association, and a place in which the back numbers and the archives of the Association can be safely and permanently stored. The mere bulk of this material creates a problem whenever the question of a change in the printing contract is raised, or in the personnel of the Secretary-Treasurer's office. The expense connected with the moving of the back numbers from St. Albans, Vermont, to Menasha, Wisconsin, was $853.60. The expense directly chargeable to the moving of the Secretary's office from New Haven, Connecticut, to Evanston in May, 1925, was $790.23 (*Proceedings*, March, 1926, p. 337). Items of expense of this size emphasize the desirability of permanent headquarters for the Association.

The total expenses for the year ending December 15, 1928, show an increase of $1,509.62 over the year 1927. This increase is more than accounted for by the moving expense ($853.60) mentioned above, and the publication of the biennial *Handbook* ($934.07). These two items amount to $1,787.67. Except for these two items, the ordinary expenses of the Association were $178.05 less than the previous year. There are changes in a number of the items of expense which fluctuate from year to year, but

which do not have a marked effect on the total annual expenditure of the Association.

The total publication expense shows an increase of $1,438.53. The detailed figures are given below:

	1927	*1928*	
Printing	$ 5,619.20	$ 5,321.95	
Editorial	1,500.00	1,500.00	
Contributions	1,013.75	1,190.50	
Editorial Expenses and Supplies	2,103.75	2,331.87	
	$10,236.70	$10,344.32	$107.62
Proceedings	$ 1,519.41	$ 1,925.25	
Handbook		934.07	
	$ 1,519.41	$ 2,859.32	$1,330.91

This table shows an increase of $107.62 in connection with the publication of the *Review*, and $1,330.91 with the *Proceedings* and the *Handbook*.

The increased cost of the *Proceedings* is accounted for by the 81 additional pages published in 1928 as compared with 1927. The *Handbook* is a biennial publication and hence adds to the expenses of the Association in alternate years.

The net advantages of the new printing contract cannot be expressed precisely, because of differences in the number of pages printed. It is of interest to note that the printing cost of the four numbers of the *Review* for 1928, which include 36 more pages than the four numbers for the previous year, shows a saving of $297.25. Because of the large difference in the number of pages in the *Proceedings*, it is not easy to make a direct comparison. The average printing cost per page this year as compared with a similar average for 1927 shows a saving.

The Treasurer directs the attention of the Association to unsold copies of the *Economic Essays*. There are now 543 copies of this volume on hand, which are carried at an inventory figure of $1,303.20. Members who have not purchased copies of this volume can do themselves, as well as the Association, a real service by securing a copy for their personal libraries, thereby freeing funds of the Association for other purposes.

The total investments of the Association amount to $29,000.00 par, $28,631.45 cost, with an annual interest yield of $1,552.50. The complete list of holdings with the transactions for the year are given in the report of the Finance Committee.

The assets of the Association, as of December 15, 1928, include a current balance in the checking account of $67.25; savings account, $5,502.89; certificate of deposit, $1,000.00; and securities valued at cost at $28,631.45. Among the liabilities are prepaid dues and subscriptions, $2,293.76; membership extension fund, $5,262.49; and life memberships, $6,100.00. The net surplus shown in the Auditor's report is $30,802.99, a net gain of $847.98 during the current year.

The finances of the Association are on a sound basis for the present methods of operation, but they would require a considerably larger sum in the form of investments, if permanent headquarters were established, or if the Association were to undertake to foster research by assisting in the publication of especially meritorious manuscripts that are not readily taken by private publishers, a practice now followed by some of the learned societies of the country.

Respectfully submitted,
F. S. DEIBLER,
Treasurer.

REPORT OF THE AUDITING COMMITTEE

Chicago, Illinois, December 21, 1928.

Executive Committee,
American Economic Association, Incorporated,
Evanston, Illinois.

DEAR SIRS:

Having completed our audit of the books and records of the American Economic Association, Incorporated, for the period from December 10, 1927, to December 15, 1928, we present herewith our report thereon, together with the following statements:

Exhibit	*Number*
Balance sheet—December 15, 1928	I
Statement of income and expense—Year ending December 15, 1928	II

Results from Operations

Income for the year ending December 15, 1928, exceeded expense by $310.70 (Exhibit II), as compared with $1,660.98 for the year ending December 10, 1927. A comparison of income and expense for the years ending December 10, 1927, and December 15, 1928, is presented in the following summary:

Particulars	Year Ending December 10, 1927	Year Ending December 15, 1928	Increase or *Decrease*
Income from dues	$13,324.82	$13,351.25	$ 26.43
Income from investments and bank balances	1,783.31	1,916.90	133.59
Other income	4.38	3.70	*.68*
Total income	$15,112.51	$15,271.85	$ 159.34
Administrative and other operating expenses	$ 5,888.91	$ 6,536.78	$ 647.87
Publication costs	12,206.89	13,313.15	1,106.26
Publication income	*4,925.59*	*5,179.64*	*254.05*
"Economic Essays"	281.32	290.86	9.54
Total expenses	$13,451.53	$14,961.15	$1,509.62
Net income	$ 1,660.98	$ 310.70	*$1,350.28*

The increase in expense is attributable principally to the cost of publication of the 1928 biennial handbook ($934.07) and the expense ($853.60) sustained in connection with moving certain supplies of the Association to the plant of the Banta Publishing Company at Menasha, Wisconsin, the organization which now prints the publications of the Association.

Balance Sheet

We examined all changes in balance sheet items. Cash in banks and investments held in trust were reconciled with statements furnished by the depositories. Membership dues and publication sales unpaid were supported by subsidiary ledgers. Additions to furniture, fixtures and bound periodicals were properly recorded and consisted of filing cases and picture frames.

Unearned dues and subscriptions were supported by detail lists. As far as we were able to ascertain, accounts payable consisted of a single invoice owing to Banta Publishing Company.

Changes in Financial Position

The following comparison of balance sheets at December 10, 1927, and December 15, 1928, reflects the changes in the financial position of the Association during the intermediate period.

Assets	December 10, 1927	December 15, 1928	Increase or *Decrease*
Cash and cash funds	$ 5,343.71	$ 5,570.14	$ 226.43
Investments, at cost, plus accrued interest	29,117.77	30,076.15	958.38
Receivables (net)	539.47	229.40	*310.07*
Inventories, at cost:			
Cover stock	307.98	302.64	*5.34*
"Economic Essays"	1,483.20	1,303.20	*180.00*
Stamped envelopes		214.28	214.28
Furniture, fixtures and bound periodicals, at cost	1,106.53	1,142.21	35.68
Reserve for depreciation on furniture and fixtures	*307.86*	*399.24*	*91.38*
Total assets	$37,590.80	$38,438.78	$ 847.98
Liabilities and Net Worth			
Accounts payable		$ 79.54	$ 79.54
Unearned income	$ 2,030.02	2,293.76	263.74
Membership extension fund	5,468.49	5,262.49	*206.00*
Life memberships	6,025.00	6,100.00	75.00
Surplus—			
Balance—December 10, 1927	24,067.29	24,067.29	
Net income—Year 1928		310.70	310.70
Transfer from life memberships to surplus—1928		325.00	325.00
Total liabilities and net worth	$37,590.80	$38,438.78	$ 847.98

We found the records of the period under review had been competently handled and that all information pertinent to our examination was readily available.

Very truly yours,

H. Baumann,
E. L. Kohler,
Auditing Committee.

EXHIBIT I

AMERICAN ECONOMIC ASSOCIATION

BALANCE SHEET, DECEMBER 15, 1928

Assets

CURRENT ASSETS:			
Cash in banks—			
State Bank and Trust Company, Evanston, Illinois—			
Checking account	$ 67.25		
Savings account	1,226.20		
Central Trust Company, Cambridge, Massachusetts—			
Savings account	4,276.69	$ 5,570.14	
Investments, at cost	$29,631.45		
Interest accrued thereon	444.70	30,076.15	
Receivables—			
Membership dues	$ 237.50		
Publication sales	101.90		
Total receivables	339.40		
Less—Reserve for doubtful accounts	110.00	229.40	
Inventories, at cost—			
Cover stock	$ 302.64		
"Economic Essays"	1,303.20		
Stamped envelopes	214.28	1,820.12	$37,695.81
FURNITURE, FIXTURES AND BOUND PERIODICALS AT COST		$ 1,142.21	
Reserve for depreciation		399.24	742.97
Total assets			$38,438.78

Liabilities and Net Worth

CURRENT LIABILITIES:			
Accounts payable		$ 79.54	
Unearned income—			
Membership dues	$ 552.91		
Subscriptions	1,740.85	2,293.76	$ 2,373.30
MEMBERSHIP EXTENSION FUND			5,262.49
NET WORTH:			
Life Memberships		$ 6,100.00	
Surplus unappropriated—			
Balance, December 11, 1927, per audit report	$24,067.29		
Excess of income over expenses, year ending December 15, 1928 (Exhibit II)	310.70		
Transfer from life memberships due to deaths of two life members	325.00	24,702.99	30,802.99
Total liabilities and net worth			$38,438.78

EXHIBIT II

Particulars		*Amount*	
INCOME FROM DUES:			
Regular members (less $267.50 defaulted dues unpaid at December 15, 1928)		$12,541.25	
Subscribing and contributing members		810.00	$13,351.25
OTHER INCOME:			
Income from investments—			
Interest earned	$ 1,642.77		
Profit on sale of securities	60.50		
	$ 1,703.27		
Custodian's fee	29.00	$ 1,674.27	
Interest earned on savings and checking accounts		242.63	
Miscellaneous		3.70	1,920.60
Total income			$15,271.85
ADMINISTRATIVE AND OTHER OPERATING EXPENSES:			
Secretary's salary	$ 1,000.00		
Office salaries	2,986.53		
Postage	241.18		
Stationery and printing	84.13		
Office supplies	53.63		
Telephone and telegrams	66.70		
Insurance	79.10		
Depreciation	91.38		
Annual meeting	449.20		
Publication of handbook	934.07		
Executive committee expense	281.42		
Other committee expenses	12.55		
American Council of Learned Societies	133.20		
Auditing	75.00		
Other expenses	48.69	$ 6,536.78	
PUBLICATION EXPENSES:			
Printing	$ 5,321.95		
Editor	1,500.00		
Contributions	1,190.50		
Editorial expenses and supplies	2,331.87		
Editor's traveling expense	48.55		
Proceedings	1,925.53		
Expense of moving equipment to Banta Publishing Co., Menasha, Wisconsin	853.60		
Sundry publication expense	141.15		
Total publication expenses	$13,313.15		
Publication income—			
Subscriptions other than from members	$4,273.78		
Sales of copies	905.86	5,179.64	8,133.51
"ECONOMIC ESSAYS":			
Inventory, December 11, 1927	$ 1,483.20		
Expense of making corrections	168.63		
Reprints of articles sent to authors	125.00		
Packing and shipping costs	88.47		
	$ 1,865.30		
Sales (at cost of printing and shipping)	$ 271.24		
Inventory, December 15, 1928	1,303.20	1,574.44	290.86 14,961.15
Net income for year (Exhibit I)			$ 310.70

REPORT OF THE FINANCE COMMITTEE

During the year the following changes were made in the list of investments held by the Association:

Called	*Par*	*Selling Price*
Standard Milling Company, 1st and Ref. Mtgs., 5½%, due March 1, 1945	$1,000.00	$1,032.50
National Dairy Products Corp., 15 year Coll. Tr. 6%	1,000.00	1,035.00
Bought		*Cost*
National Dairy Products Corp., 5¼%, due Feb. 1, 1948	1,000.00	990.00
Ohio Power Co., 1st and Ref. "D," 4½%, due June 1, 1956	1,000.00	960.00

The total investments of the Association are now $29,000.00 par, cost $28,633.45. The annual interest on these investments amounts to $1,552.50. The interest received during the current year on certificates of deposits amounted to $69.11, and on the checking account to $20.54.

The investment list stands as follows:

Bonds	*Par Value*
Bell Telephone Co. of Pennsylvania, First and Refunding Mortgage 5%	$ 2,000.00
Louisville Gas and Electric Co., First Mortgage 5%	1,000.00
Northern Pacific Railway Co., Refunding Mortgage 5%	5,000.00
Commonwealth Edison Co., First Mortgage 5%	2,000.00
Pacific Gas and Electric Co., First and Refunding Mortgage 5½%	2,000.00
Armour and Co. of Delaware, First Mortgage 20 year 5½%	2,000.00
Illinois Bell Telephone Co., First Mortgage 5%	2,000.00
Illinois Central Railroad Co., First and Refunding Mortgage 5%	2,000.00
Standard Milling Co., First and Refunding Mortgage 5½%	1,000.00
Pacific Mills Ltd., First Mortgage Series 6%	2,000.00
Great Northern Railway Co., General Series "A" 7%	1,000.00
Southern Illinois and Missouri Bridge Co., 4%	1,000.00
Crown Willamette Paper Co., First Mortgage 6%	1,000.00
U. S. of America, Fourth Liberty Loan 4¼%	2,000.00
By-Products Coke Corp., First Mortgage 5½%	1,000.00
National Dairy Products Corp., 5¼%	1,000.00
Ohio Power Co., First and Refunding "D" 4½%	1,000.00
TOTAL SECURITIES	$29,000.00

Respectfully submitted,

C. H. CRENNAN, *Chairman*,
WADDILL CATCHINGS,
F. S. DEIBLER.

REPORT OF THE MANAGING EDITOR OF THE AMERICAN ECONOMIC REVIEW FOR THE YEAR ENDING DECEMBER, 1928

The cost of the *Review* during the past year was $10,344.32 as compared with $10,236.70 in 1927, an increase of $52.25. This is approximately $50.00 less than the amount estimated in the budget a year ago. Notwithstanding the slight increase in expenditure, there was an increase of thirty-six pages in the current volume. The average per issue number of copies printed this year was 4,200 as compared with 4,100 in 1927.

By principal items the cost of the *Review* during 1928 was as follows:

Printing (paper, reprints, postage, etc.)	$ 5,321.95
Editorial	1,500.00
Clerical	1,956.50
Supplies	375.37
Contributors	1,190.50
	$10,344.32

On the basis of printing 4,200 copies the following budget for 1929 is submitted:

Printing (paper, reprints, postage, etc.)	$ 5,300.00
Editorial	1,500.00
Clerical	2,000.00
Supplies	350.00
Contributors	1,400.00
	$10,550.00

The following persons have served as editors during the past year: Professor E. M. Patterson and Professor Ray B. Westerfield, whose terms expire this year; Professor John Ise and Professor Frank H. Knight, whose terms expire in 1929; and Professor J. M. Clark and Dr. E. G. Nourse, re-elected in 1927 to another term which expires in 1930.

With the forthcoming publication of the new *Journal of Social Science Abstracts* it is planned to drop the periodical abstracting from our *Review*. The new service will be far more complete than we have been able to undertake owing to the lack of space. The number of pages devoted to the section of periodical abstracts has varied during the past five years from 108 pages to 121. It is believed that this space can be used advantageously for more complete annotations and reviews of books.

During the past year in the abstracting of periodicals Mr. W. P. Fiske and Mr. Paul B. Coffman have aided Professor Arthur W. Hanson in the field of accounting; Mr. George Brooks aided Dr. Walter J. Couper in the field of labor; and Professor Harry R. Tosdal assisted in the abstracting of titles in the field of business management.

During the past year 153 persons have co-operated in the preparation of the *Review*, including leading articles, communications, reviews, document notes, and periodical abstracts.

Appended are the comparative tables showing the distribution of contents and cost by principal items, in the continuation of tables previously given.

DAVIS R. DEWEY,
Managing Editor.

TABLE I—PAGES GIVEN TO EACH SECTION

Year	Leading articles	Reviews	New books listed	Documents, reports, etc.	Periodical abstracts	Notes	Theses	Totals
1911	342	304	62	89	133	40	8	978
1912	291	298	101	110	186	41	11	1038
1913	347	268	104	141	167	43	8	1078
1914	327	243	136	113	166	35	10	1030
1915	314	257	90	142	144	42	14	1003
1916	388	256	91	90	140	46	13	1024
1917	378	192	110	127	120	42	15	984
1918	389	157	91	112	99	41	17	906
1919	374	163	154	103	95	47	12	948
1920	395	109	155	98	122	42	15	936
1921	331	103	133	39	117	38	11	772
1922	293	91	159	35	124	37	13	752
1923	298	122	184	26	113	43	14	800
1924	339	110	191	23	113	42	18	836
1925	325	131	178	27	110	38	23	832
1926	270	137	184	15	108	43	27	784
1927	262	120	195	32	114	42	27	792
1928	335	111	176	12	121	45	28	828

TABLE II—EXPENDITURES

Year	Printing	Salary of editor	Payments to contributors	Clerical	Supplies	Totals
1911	$2495.18	$1500.00	$1320.25	$ 865.50	$413.51	$6730.59*
1912	3220.83	1500.00	1114.50	794.89	292.68	6922.90
1913	3328.01	1500.00	1268.35	983.09	325.10	7404.55
1914	3023.62	1500.00	1312.25	1236.29	459.18	7531.34
1915	2834.91	1500.00	1210.00	1171.87	286.86	7003.64
1916	3257.27	1500.00	1423.00	1173.93	339.86	7694.06
1917	3762.37	1500.00	1267.00	1151.30	326.01	8006.68
1918	3497.73	1500.00	1203.25	1260.06	332.73	7793.77
1919	5049.50	1500.00	1231.50	1325.93	347.84	9454.77
1920	6656.31	1500.00	1122.75	1595.64	307.20	11181.90
1921	5646.97	1500.00	64.50	1472.50	319.97	9003.94
1922	4795.28	1500.00	———	1370.00	314.77	7980.05
1923	5032.59	1500.00	———	1650.09	437.86	8620.54
1924	5423.28	1500.00	1110.25	1464.01	305.32	9802.86
1925	5713.01	1500.00	1133.50	1757.32	406.36	10510.19
1926	5332.24	1500.00	1128.00	1589.86	323.43	9873.53
1927	5619.20	1500.00	1013.75	1806.50	297.25	10236.70
1928	5266.57	1500.00	1190.50	1956.50	375.37	10288.94

*Includes $186.15, traveling expenses of editors.

TENTH ANNUAL REPORT OF THE JOINT ADVISORY COMMITTEE TO THE DIRECTOR OF THE CENSUS FROM THE AMERICAN ECONOMIC AND AMERICAN STATISTICAL ASSOCIATIONS

The Advisory Committee to the Director of the Census from the American Economic and American Statistical Associations respectfully presents to the two Associations its tenth annual report.

Two meetings have been held during the year 1928. They have been characterized, as has become the fortunate custom in connection with the meetings of this co-operative committee, by conscientious attendance on the part of the members. At the first meeting one representative from the American Statistical Association was absent because of illness, and at the second meeting all representatives of both organizations were present.

The spring meeting of the Committee was held on the 18th and 19th of May and was devoted largely to outlining by the Director and officials of the Census of the plans either under consideration or about to be adopted for the enumeration and tabulation of the Fifteenth Census, accompanied by discussion and suggestion by the Committee.

It has been pointed out in previous reports to the two Associations that the tendency of the relations between the Census Bureau and the Advisory Committee has been for the Bureau to regard the Committee as a group of interested assistants, or perhaps, stated otherwise, as a useful and effective working board of directors, and in accordance with the policy early established by the present Director of the Census, the various problems which had arisen in connection with Census work were outlined, and plans for legislation and expenditure were submitted for the consideration of the Committee, and upon these comment and suggestion were invited. At this meeting six formal recommendations were adopted by the Committee for the information and guidance of the Bureau.

At the December meeting, held on the 14th and 15th of this month, the greater part of the four sessions held with the Director of the Census and his officials was devoted to the form and content of the population schedule required for use at the approaching Fifteenth Census, though some consideration also was given to the rather complicated requirements of the agricultural schedule.

Quite in line with changing conditions in the country generally, the Bureau has been somewhat embarrassed by a great number of appeals from various interests, scientific and private, for extensive changes in the population schedule, and particularly for additions to it. Naturally the first and all-important standard for determining the feasibility of additional questions is the extent of their application, since the population schedule must relate to every individual in all the states of the Union. Hence a question which applies only to certain areas or elements cannot be regarded as a desirable question for the general schedule. After much discussion minor changes in connection with the population schedule, in the direction of simplification—in some instances suggested by the Director and in others

by the Joint Advisory Committee—were decided upon. Some of the changes approved, if carried through by the Bureau, will result in additional information urged by some scientific and other interests. The Committee was strongly of the opinion that the task before the Bureau, becoming now decennially vastly greater, cannot be complicated by increasing the amount of work both for enumeration and tabulation, in the face of the increase in population confronted by the Census Bureau at each federal census. It was a matter of comment at the last meeting of the Committee that the population of the United States in 1930 is likely to show an increase approaching fifty millions over the population of the nation in 1900, when several members of the Committee were for a time connected officially with the Bureau.

The Joint Committee desires to report to their respective Associations that their experience at the last joint meeting convinces them that the Director of the Census and his associates are showing unusual ability and foresight in preparing in advance for the great census enumeration to begin November 1, 1929. The preparation of maps required for each of the approximately one hundred thousand enumerators, indicating their respective districts in sufficient detail to be thoroughly intelligible, is under way this year with a degree of care and detail never attempted by the Bureau before. The number of supervisors and inspectors will be greatly increased, tabulation will be accomplished upon automatic punches and new and more perfect tabulating and sorting machines, and the prospects, in the opinion of your Joint Committee, are for a much better, more complete and more accurate federal census then has ever been made before. In these matters the progress of the Bureau is gratifyingly in consonance with the increased efficiency and development shown in the great industrial and other enterprises of the nation, where progress is being continually made toward better and more effective results.

At the December meeting of the Joint Committee a number of resolutions were adopted bearing almost exclusively upon the schedules. The resolutions adopted numbered six, making a total since the formation of the Committee of one hunded and ninety-three recommendations adopted during a period of ten years.

With much respect,

For The American Statistical Association,

William S. Rossiter, *Chairman*,
Robert E. Chaddock,
Willford I. King.

For The American Economic Association,

Walter F. Willcox,
George F. Warren,
George E. Barnett.

December 22, 1928.

REPORT OF THE REPRESENTATIVES OF THE AMERICAN ECONOMIC ASSOCIATION TO THE AMERICAN COUNCIL OF LEARNED SOCIETIES

The A. C. L. S. held its annual meeting in Washington, D. C., on December 28, 1928, with twenty-one delegates and five proxies present out of the total of twenty-eight delegates. The secretaries of nine of the fourteen constituent societies who had been attending on the previous day the annual conference of Secretaries called by the A. C. L. S. were also present by invitation.

The Treasurer's report for the calendar year 1927 showed receipts of $28,828.74, including $12,500 from the General Education Board, $10,000 from the Carnegie Corporation and $5,000 from the Laura Spelman Rockefeller Memorial, expenditures of $23,501.33 and a balance of $12,239.40 at the end of the year.

On recommendation of the Executive Committee and after full discussion, the Council voted to authorize the appointment of an advisory board of not more than nine members for the examination of projects under its consideration, and that board was subsequently appointed.

Two councils, the A. C. L. S. and the S. S. R. C., have been organized since the end of the World War, the former in 1920, the latter in 1924. Both are federations of national societies, and the American Economic Association along with three other such societies is a member of each Council. While the two at the start had different main purposes, the older aiming to provide for American membership in the International Union of Academies, the younger to encourage research in the social sciences and especially such enterprises as would naturally belong to more than one of its constituent societies, yet as the two organizations have developed, there has been some uncertainty about the fields appropriate to each, and some danger of overlapping if not of friction between them. During the year just closing conferences have been held between representatives of these Councils in order to bring about a better understanding of their respective fields. It has seemed unwise to sketch a definite line of demarcation between them, but in general the A. C. L. S. aims to promote the interests of its fifteen constituent societies as organizations and to represent them in their relations with organizations of scholars abroad, but does not attempt under ordinary circumstances to push research projects in the social sciences. A joint conference committee of the two Councils and several interlocking committees have resulted.

The third annual conference of the secretaries of the constituent societies was held in Washington on the day prior to the annual meeting of the Council. These conferences are designed for the discussion of problems common to several societies and falling within the secretarial field or of opportunities for co-operative action. In December, 1927, the Council organized a Joint Press Bureau to furnish information before and during the annual meetings of several constituent societies. The result proved so

satisfactory that the man in charge of this work has been continued during 1928, as publicity agent for the Council and its constituent societies.

For more than two years the A. C. L. S. has been corresponding with the Kartell of German and Austrian Academies about their entrance into the International Union of Academies, and progress toward that end can be reported. The delegates of The Netherlands, Norway, and the United States stand ready to nominate the Academies for membership in the International Union when they are ready to accept it under the statutes.

A Survey of Research in the Humanistic Social Sciences, made possible in 1925 by a grant from the Carnegie Corporation and carried through under the auspices of the A. C. L. S. by Professor F. A. Ogg as Director, was published in 1928 by the Century Company and satisfied an important need. The first of the twenty volumes of the *Dictionary of American Biography* have recently been published, and that event was celebrated by a dinner November 13 at the Hotel Roosevelt in New York, at which the A. C. L. S. as sponsor for the *Dictionary of American Biography* was the host.

A conference on Chinese studies in the United States was held in New York on December 1 and was attended by forty American sinologists of standing, and after a session lasting through one day resulted in the adoption of several recommendations including one for the creation of a standing committee on Chinese studies and another for a second conference to be held at an early date.

Your delegates approve and adopt as their own the following conclusions of the perament secretary in his report to the approaching annual meeting of the A. C. L. S.: "The Council and its constituent societies are an agency through which humanistic scholarship may be directly encouraged and organized for specific undertakings. As such they are a natural complement to American universities and colleges. These humanistic studies need to have new scholars recruited and trained as well as knowledge of their fields advanced."

WALTER F. WILLCOX,
EDWIN F. GAY.

REPORT OF PROGRESS ON THE ENCYCLOPAEDIA OF THE SOCIAL SCIENCES

Since the last Annual Meeting considerable progress has been made in the development of the work. This may be discussed under four heads:

1. The conduct of the work.
2. The contributors.
3. The publishers.
4. The staff.

So far as concerns the content of the work, the first thing was to select the names and titles of the articles that are to go into the fifteen volumes. We started out by taking large topics—Law, Labor, Art, Agriculture—and making a list of the twenty, forty, one hundred articles and titles that we thought might properly be included under these respective heads. This was done by the staff, and the results were sent around to a large number of experts in the particular field. Many of these gentlemen have given valuable assistance. We call them Editorial Consultants because we consult them as to the exclusion or inclusion of the articles. They returned the lists with many suggestions. After deciding what articles should be put in and the proportion of space to be given to each, there came the far more exacting editorial task of outlining the content of each article. We did not, of course, intend to dictate to each contributor what he should write. We proposed rather to explain to the contributor what we had in mind—the kind of article that would fit into the general scope of the *Encyclopaedia* as it was explained by me a year ago. Thus for each article a summary was put on a card—sometimes a few thousand words, sometimes only a few lines, and this outline was sent to each contributor with the suggestion that, if he so chose, he might follow it. As a matter of fact, our suggestions have been followed with very little change. To complete these outlines for the entire *Encyclopaedia* should occupy the staff for at least two more years to come.

In addition to the articles, we have a large number of biographies dealing with celebrated men in each of the ten fields covered by the *Encyclopaedia*. This, also, was a difficult matter inasmuch as it included not alone Anglo-Saxon personalities but also those in all the different countries and ages. Here we have had to lean heavily upon our Editorial Consultants abroad for advice as to both inclusion and exclusion. The biographies will occupy about one-fifth of the entire space.

Approximately one-half of the first volume will be devoted to the introductory material. Of this the most important part is a study in twelve or fifteen chapters of the progress of the social sciences as a reflex of social and political development, from the time of the Greeks to the present. Other divisions of the introductory material will deal with an explanation of our own venture, the history of encyclopaedia making, the teaching of the social sciences here and abroad, and an annotated bibliography of epoch making works in the ten different fields of the human sciences.

So much for the content of the work. Now as to the contributors. We have found an admirable degree of co-operation from scholars all over the world. Our difficulty has naturally been to choose just the right man for the particular article. Sometimes it is a bit embarrassing because we have two or three scholars who are equally important in one field. However, in most cases we have been able finally to select just the right man, and as a consequence we have a galaxy of contributors, which I think I can safely say exceeds both in quality and quantity any similar array in the history of science. We have had all kinds of encyclopaedias before, but never before has there been an encyclopaedia with such a large number of really eminent thinkers from all over the world as contributors.

We have also to mention the pleasant fact that whereas we expected at least one-third of those invited to contribute to decline, only about 5 per cent have actually declined. In other words, almost everyone has considered it an honor to take part in the notable enterprise.

We come next to the format and makeup of the volumes themselves. Here we started out by engaging four leading artists and printers in this country to make plans, suggestions, and samples. We were able to select only one of these four, although his proposals were subsequently modified by some excellent suggestions of the other three. That took several months. When we had completed this, we went to work with the publishers. Here again we found a number who were willing to take up the task. We finally cast in our lot with The MacMillan Company. It is largely owing to the admirable suggestions of Mr. R. R. Smith and to his courtesy that we have been able to go as far as we have done. We are still discussing the questions of paper and binding, but have settled upon the price of $7.50 for each of the fifteen volumes, with a 40 per cent rebate to members of the constituent societies who send in their subscriptions now.

The final point is with reference to the staff. We are fortunate in having associated with us Dr. Alvin Johnson, who has not only shown understanding of all details of encyclopaedia making, combined with scholarship, but who has displayed great administrative capacity. As a consequence we have today a group of fine men and women at work. We started in at Columbia with one or two rooms, and we now have two floors in a building with about a dozen rooms, and twenty-five people at work. It will be interesting to note that in addition to Dr. Johnson and myself, we have twelve experts—six men and six women—who are Doctors of Philosophy and experts in their fields. In addition to these experts, we have a number of secretaries, typists, and file clerks, and now we are just taking on someone to prepare the manuscripts for the printer as well as a proof reader. We expect to send the material for the first volume to the printer within two or three months, and we hope to have the first volume ready early in September. The volumes will then succeed each other at intervals of about four months.

Although we have now been working actively for a year and a half, time has not been lost. The work has become far greater than I had contemplated at the beginning. If I had had any idea of the magnitude of the

task, I should have been far more reluctant to be dragged into this gigantic enterprise. But as the work proceeds, I grow more enthusiastic about it. It can be said without extravagance that this encyclopaedia, when it is complete after four or five years, will be far and away the most important work of its kind that has ever been prepared, and that it will, I hope, redound to the credit of American scholarship.

E. R. A. SELIGMAN.

REPORT OF THE REPRESENTATIVES OF THE ASSOCIATION ON THE SOCIAL SCIENCE RESEARCH COUNCIL

In the absence of all of the representatives, Professor E. E. Day made an oral report concerning the work of the Council, calling attention to the *Fourth Annual Report* of this body, which has been printed and is available for distribution to members of the constituent societies. This report gives a complete and detailed statement of the activities, research projects, and financial aid to research that have been fostered by the Council during the year. The members are referred to this report for further information.

PUBLICATIONS

OF THE

AMERICAN ECONOMIC ASSOCIATION

1929

FIRST SERIES

** Numbers starred are sold only with the set; the supply of those double starred is exhausted. For information apply to the Secretary.*

Volume I, 1886

		Price in paper
1.	Report of Organization of the American Economic Association. Pp. 46.	$ .50
2-3.	** Relation of the Modern Municipality to the Gas Supply. By E. J. James. Pp. 66.	.75
4.	Co-operation in a Western City. By Albert Shaw. Pp. 106.	.75
5.	Co-operation in New England. By E. W. Bemis. Pp. 136.	.75
6.	** Relation of the State to Industrial Action. By H. C. Adams. Pp. 85.	.75

Volume II, 1887

1.	Three Phases of Co-operation in the West. By Amos G. Warner. Pp. 119.	.75
2.	Historical Sketch of the Finances of Pennsylvania. By T. K. Worthington. Pp. 106.	.75
3.	The Railway Question. By Edmund J. James. Pp. 68.	.75
4.	Early History of the English Woolen Industry. By W. J. Ashley. Pp. 85.	.75
5.	** Mediæval Guilds of England. By E. R. A. Seligman. Pp. 113.	.75
6.	Relation of Modern Municipalities to Quasi-Public Works. By H. C. Adams and others. Pp. 87.	.75

Volume III, 1888

1.	Statistics in College, by C. D. Wright; Sociology and Political Economy, F. H. Giddings; The Legal-Tender Decisions, by E. J. James. Pp. 80.	.75
2.	Capital and Its Earnings. By John B. Clark. Pp. 69.	.75
3.	The Manual Laboring Class, by F. A. Walker; Mine Labor in the Hocking Valley, by E. W. Bemis; Report of the Second Annual Meeting. Pp. 86.	.75
4-5.	** Statistics and Economics. By Richmond Mayo-Smith. Pp. 127.	1.00
6.	The Stability of Prices. By Simon N. Patten. Pp. 64.	.75

Volume IV, 1889

1. Contributions to the Wages Question: The Theory of Wages, by Stuart Wood; Possibility of a Scientific Law of Wages, by J. B. Clark. Pp. 69. .75
2. Socialism in England. By Sidney Webb. Pp. 73. .75
3. Road Legislation for the American State. By J. W. Jenks. Pp. 83. .75
4. Third Annual Meeting: Report of the Proceedings. Pp. 123. .75
5. ** Malthus and Ricardo, by S. N. Patten; The Study of Statistics, by D. R. Dewey; Analysis in Political Economy, by W. W. Folwell. Pp. 69. .75
6. An Honest Dollar. By E. Benjamin Andrews. Pp. 50. .50

Volume V, 1890

1. The Industrial Transition in Japan. By Yeijiro Ono. Pp. 122. 1.00
2. Two Essays on Child-Labor. By W. F. Willoughby and Clare de Graffenried. Pp. 150. .75
3-4. Papers on the Canal Question. By E. J. James and L. M. Haupt. Pp. 85. 1.00
5. History of the New York Property Tax. By J. C. Schwab. Pp. 108. 1.00
6. Educational Value of Political Economy. By S. N. Patten. Pp. 36. .75

Volume VI, 1891

1-2. Fourth Annual Meeting: Reports, Papers, Discussions. 1.00
3. Government Forestry. Papers by Pinchot, Bowers, and Fernow. Pp. 102. .75
4-5. Municipal Ownership of Gas in the U.S. By E. W. Bemis. Pp. 185. 1.00
6. State Railroad Commissions. By F. C. Clark. Pp. 110. .75

Volume VII, 1892

1. * The Silver Situation in the United States. By F. W. Taussig. Pp. 118. .75
2-3. ** Shifting and Incidence of Taxation. By E. R. A. Seligman. Pp. 424 (Revised). 2.00
4-5. Sinking Funds. By Edward A. Ross. Pp. 106. 1.00
6. The Reciprocity Treaty with Canada of 1854. By F. E. Haynes. Pp. 70. .75

Volume VIII, 1893

1. Fifth Annual Meeting: Report of the Proceedings. Pp. 130. .75
2-3. Housing of the Poor in American Cities. By M. T. Reynolds. Pp. 132. 1.00
4-5. Public Assistance of the Poor in France. By E. G. Balch. Pp. 180. 1.00
6. First Stages of the Tariff Policy of the U.S. By William Hill. Pp. 162. 1.00

Volume IX, 1894

Sixth Annual Meeting: Handbook and Report. Pp. 73. .50
1-2. ** Progressive Taxation in Theory and Practice. By Edwin R. A. Seligman. Pp. 222. *(See 1908, No. 4.)* 1.00
3. The Theory of Transportation. By C. H. Cooley. Pp. 148. .75
4. Sir William Petty. By Wilson Lloyd Bevan. Pp. 102. .75
5-6. Papers on Labor Problems. By J. B. Clark, C. D. Wright, D. R. Dewey, A. T. Hadley, and J. G. Brooks. Pp. 94. .75

Volume X, 1895

Seventh Annual Meeting: Handbook and Report. Pp. 138. .50
1-3. The Canadian Banking System, 1817-1890. By R. M. Breckenridge. Pp. 478. 1.50
4. Poor Laws of Massachusetts and New York. By John Cummings. Pp. 136. .75
5-6. Letters of Ricardo to McCulloch, 1816-1823. Edited by J. H. Hollander. Pp. 204. *(In cloth, only.)* 1.75

Volume XI, 1896

1-3. ** Race Traits and Tendencies of the American Negro. By F. L. Hoffman. Pp. 330. 1.25
4. Appreciation and Interest. By Irving Fisher. Pp. 110. .75
*General Index to Volumes I-XI (1886-1896.) .25

ECONOMIC STUDIES

Price of the Economic Studies $2.50 per volume in paper.

Volume I, 1896

Eighth Annual Meeting: Handbook and Report. Pp. 178. .50
1. The Theory of Economic Progress, by J. B. Clark; The Relation of Changes in the Volume of the Currency to Prosperity, by F. A. Walker. Pp. 46. .50
2. The Adjustment of Wages to Efficiency. Three Papers: Gain Sharing, by H. R. Towne; The Premium Plan, by F. A. Halsey; A Piece-Rate System, by F. W. Taylor. Pp. 88. .50
3. The Populist Movement. By Frank L. McVey. Pp. 81. .50
4. The Present Monetary Situation. By W. Lexis; translated by John Cummings. Pp. 72. .50
5-6. The Street Railway Problem in Cleveland. By W. R. Hopkins. Pp. 94. .75

Volume II, 1897

Ninth Annual Meeting: Handbook and Report. Pp. 162. .50
1. Economics and Jurisprudence. By Henry C. Adams. Pp. 48. .50
2. The Saloon Question in Chicago. By John E. George. Pp. 62. .50
3. The General Property Tax in California. By C. C. Plehn. Pp. 88. .50
4. Area and Population of the United States at the Eleventh Census. By W. F. Willcox. Pp. 60. .50
5. A Discussion Concerning the Currencies of the British Plantations in America, etc. By William Douglass. Edited by C. J. Bullock. Pp. 228. .50
6. Density and Distribution of Population in the United States at the Eleventh Census. By W. F. Willcox. Pp. 79. .50

Volume III, 1898

Tenth Annual Meeting: Handbook and Report. Pp. 136. .50
1. Government by Injunction. By William H. Dunbar. Pp. 44. .50
2. Economic Aspects of Railroad Receiverships. By H. H. Swain. Pp. 118. .50
3. The Ohio Tax Inquisitor Law. By T. N. Carver. Pp. 50. .50
4. The American Federation of Labor. By Morton A. Aldrich. Pp. 54. .50
5. Housing of the Working People in Yonkers. By E. L. Bogart. Pp. 82. .50
6. The State Purchase of Railways in Switzerland. By Horace Michelie; translated by John Cummings. Pp. 72. .50

Volume IV, 1899

Eleventh Annual Meeting: Handbook and Report. Pp. 126. .50
1. I. Economics and Politics. By A. T. Hadley. II. Report on Currency Reform. III. Report on the Twelfth Census. Pp. 70. .50
2. Personal Competition. By Charles H. Cooley. Pp. 104. .50
3. Economics as a School Study. By F. R. Clow. Pp. 72. .50
4-5. The English Income Tax. By J. A. Hill. Pp. 162. 1.00
6. Effects of Recent Changes in Monetary Standards upon the Distribution of Wealth. By F. S. Kinder. Pp. 91. .50

NEW SERIES

1. **The Cotton Industry. By M. B. Hammond. Pp. 382. *(In cloth $2.00)* 1.50
2. Scope and Method of the Twelfth Census. Critical discussion by over twenty statistical experts. Pp. 625. *(In cloth $2.50)* 2.00

THIRD SERIES

NOTE.—*During 1896-1899 the Association issued its publication in two series, viz., the bimonthly Economic Studies, and the "New Series" of larger monographs printed at irregular intervals. In 1900 it reverted to the policy of issuing its monographs, now called the "Third Series" of the publications at quarterly intervals.*

Price per volume $4.00.

Volume I, 1900

1. Twelfth Annual Meeting: Papers on Economic Theory and Political Morality; Trusts; Railroad Problems; Public Finance; Consumers' League; Twelfth Census. Pp. 186. 1.00
2. The End of Villainage in England. By T. W. Page. Pp. 99. 1.00
3. Essays in Colonial Finance. By Members of the Association. Pp. 303. 1.50
4. Currency and Banking in the Province of Massachusetts Bay. By A. McF. Davis. Part I: Currency. Pp. 464 + 19 photogravure plates. 1.75

Volume II, 1901

1. **Thirteenth Annual Meeting: Papers on Competition; Commercial Education; Economic Theory; Taxation of Quasi-public Corporations; Municipal Accounts. Pp. 300. 1.25
2. Currency and Banking. By A. McF. Davis. Part II: Banking. Pp. 341 + 18 photogravure plates. 1.75
3. Theory of Value before Adam Smith. By Hannah R. Sewall. Pp. 132. 1.00
4. Administration of City Finances in the U.S. By F. R. Clow. Pp. 144. 1.00

Volume III, 1902

1. Fourteenth Annual Meeting: Papers on International Trade; Industrial Policy; Public Finance; Protective Tariff; Negro Problem; Arbitration of Labor Disputes in Coal Mining Industry; Porto Rican Finance; Economic History. Pp. 400. 1.50
2. **The Negro in Africa and America. By Joseph A. Tillinghast. Pp. 240. 1.25
3. Taxation in New Hampshire. By M. H. Robinson. Pp. 232. 1.25
4. **Rent in Modern Economic Theory. By Alvin S. Johnson. Pp. 136. .75

Volume IV, 1903

1. Fifteenth Annual Meeting: Papers and Discussions on Economics and Social Progress; Trade Unions and the Open Shop; Railway Regulation; Theory of Wages; Theory of Rent; Oriental Currency Problem. Pp. 298. 1.25
2. Ethnic Factors in the Population of Boston. By F. A. Bushee. Pp. 171. 1.00
3. History of Contract Labor in the Hawaiian Islands. By Katherine Coman. Pp. 74. .75
4. **The Income Tax in the Commonwealth of the United States. By Delos O. Kinsman. Pp. 134. 1.00

Volume V, 1904

Sixteenth Annual Meeting. Papers and Proceedings published in two parts.

1. Part I—Papers and Discussions on Southern Agricultural and Industrial Problems; Social Aspects of Economic Law; Relations Between Rent and Interest. Pp. 240. 1.00
2. Part II—Papers and Discussions on The Management of the Surplus Reserve; Theory of Loan Credit in Relation to Corporation Economics; State Taxation of Interstate Commerce; Trusts; Theory of Social Causation. 1.00
3. Monopolistic Combinations in the German Coal Industry. By Francis Walker. Pp. 340. 1.25
4. **The Influence of Farm Machinery on Production and Labor. By Hadley Winfield Quaintance. Pp. 110. .75

Volume VI, 1905

Seventeenth Annual Meeting. Papers and Proceedings published in two parts.

1. Part I—Papers and Discussions on the Doctrine of Free Trade; Theory of Prices; Theory of Money; Open Shop or Closed Shop. Pp. 226. 1.00
2. Part II—Papers and Discussions on Government Interference with Industrial Combinations; Regulation of Railway Rates; Taxation of Railways; Preferential Tariffs and Reciprocity; Inclosure Movement; Economic History of the United States. Pp. 270. 1.00

3. **The History and Theory of Shipping Subsidies. By R. Meeker. Pp. 230. 1.00
4. Factory Legislation in the State of New York. By F. R. Fairchild. Pp. 218. 1.00

Volume VII, 1906

1. Eighteenth Annual Meeting: Papers and Discussions on The Love of Wealth and the Public Service; Theory of Distribution; Government Regulation of Railway Rates; Municipal Ownership; Labor Disputes; The Economic Future of the Negro. Pp. 325. 1.00
2. Railroad Rate Control. By H. S. Smalley. Pp. 147. 1.00
3. On Collective Phenomena and the Scientific Value of Statistical Data. By E. G. F. Gryzanovski. Pp. 48. .75

   Handbook of the Association, 1906. Pp. 48. .25
4. The Taxation of the Gross Receipts of Railways in Wisconsin. By G. E. Snider. Pp. 138. 1.00

Volume VIII, 1907

1. Nineteenth Annual Meeting: Papers and Discussions on Modern Standards of Business Honor; Wages as Determined by Arbitration; Commercial Education; Money and Banking; Western Civilization and Birth Rate; Economic History; Government Regulation of Insurance; Trusts and Tariff; Child Labor. Pp. 268. 1.00
2. Historical Sketch of the Finances and Financial Policy of Massachusetts from 1780 to 1905. By C. J. Bullock. Pp. 144. 1.00

   Handbook of the Association, 1907. Pp. 50. .25
3. The Labor Legislation of Connecticut. By Alba M. Edwards. Pp. 322. 1.00
4. The Growth of Large Fortunes. By G. P. Watkins. Pp. 170. 1.00

Volume IX, 1908

Handbook of the Association, 1908. Pp. 49. .25

1. Twentieth Annual Meeting: Papers and Discussions on Principles of Government Control of Business; Are Savings Income; Agricultural Economics; Money and Banking; Agreements in Political Economy; Labor Legislation; Relation of the Federal Treasury to the Money Market; Public Service Commissions. Pp. 311. 1.25
2. Chicago Traction. By R. E. Heilman. Pp. 131. 1.00
3. Factory Legislation of Rhode Island. By J. K. Towles. Pp. 119. 1.00
4. **Progressive Taxation in Theory and Practice. Revised Edition. By E. R. A. Seligman. Pp. 334. 1.25

Volume X, 1909

1. Twenty-first Annual Meeting: Papers and Discussions on The Making of Economic Literature; Collective Bargaining; Round Table on Accounting; Labor Legislation; Employers' Liability; Canadian Industrial-Disputes Act; Modern Industry and Family Life; Agricultural Economics; Transportation; Revision of the Tariff; A Central Bank; The National Monetary Commission; Capitalization of Public Service Corporations in Massachusetts. Pp. 432. 1.50
2. Handbook of the Association, 1909. Pp. 59. .25
3. **The Printers. By George E. Barnett. Pp. 379. 1.50
4. Life Insurance Reform in New York. By W. H. Price. Pp. 95. .75

Volume XI, 1910

1. Twenty-second Annual Meeting: Papers and Discussions on History of the Association; Observation in Economics; Economic Dynamics; Theory of Wages; Country Life; Valuation of Public Service Corporations; Trusts; Taxation. Pp. 386. 1.50

   Handbook of the Association, 1910. Pp. 79. .25
3. The Child Labor Policy of New Jersey. By A. S. Field. Pp. 229. 1.25
4. The American Silk Industry and the Tariff. By F. R. Mason. Pp. 178. 1.00

THE ECONOMIC BULLETIN

Published quarterly in 1908, 1909, and 1910, and containing personal notes, news of the economic world, announcements of special lines of investigation, and a classified and annotated bibliography of the current books and articles on economic subjects.

Volume I, 1908.	Four numbers.	$2.00; each	.60
Volume II, 1909.	Four numbers.	$2.00; each	.60
Volume III, 1910.	Four numbers.	$2.00; each	.60

FOURTH SERIES

Subscriptions by non-members, libraries, etc., $5.00 a year.

Volume I, 1911

The American Economic Review, **March, June, September, and December; each, $1.00

Twenty-third Annual Meeting: Papers and Discussions on The Significance of a Comprehensive System of Education; Money and Prices; The Ricardo Centenary; Accounting; Canals and Railways; Population and Immigration; Labor Legislation; Taxation; A Definition of Socialism; Competition in the Fur trade. Pp. 388. 1.50

**Handbook of the Association, 1911.

Volume II, 1912

The American Economic Review, March, June, September, and December; each, 1.00

Supplement.—Twenty-fourth Annual Meeting:
Papers and Proceedings. The Economic Utilization of History; Tariff Legislation; The Federal Budget; Rural Conditions; Selection of Population by Migration; The Price Concept; An International Commission on the Cost of Living; Industrial Efficiency. Pp. 146. 1.25

Volume III, 1913

The American Economic Review, March, June, September, and December; each, 1.25

Supplement.—Twenty-fifth Annual Meeting:
Papers and Proceedings. Population or Prosperity; The Rising Cost of Living—Standardizing the Dollar; Banking Reform; Theories of Distribution; Farm Management; Governmental Price Regulation. Pp. 155. 1.25

Supplement.—Handbook of the Association, 1913. .50

Volume IV, 1914

The American Economic Review, March, June, September, and December; each, 1.25

Supplement.—Twenty-sixth Annual Meeting:
Papers and Proceedings. The Increasing Governmental Control of Economic Life; The Control of Public Utilities; Railroad Rate Making; Syndicalism; Trust Decisions and Business. Pp. 211. 1.25

Supplement.—Handbook of the Association, 1914. .75

Volume V, 1915

The American Economic Review, March, June, September, and **December; each, 1.25

Supplement.—Twenty-seventh Annual Meeting:
Papers and Proceedings. Economics and the Law; Regulation of the Stock Exchanges; Market Distribution; Statistical Work of the United States Government; Relation of Education to Industrial Efficiency; The Effect of Income and Inheritance Taxes on the Distribution of Wealth; Public Regulation of Wages. 1.25

Volume VI, 1916

The American Economic Review, **March, **June, September, and **December; each, 1.25

**Supplement.—Twenty-eighth Annual Meeting:
Papers and Proceedings. The Apportionment of Representatives; Effect of the War on Foreign Trade; Budget Making and the Increased Cost of Government; Economic Costs of War; Economic Theorizing and Scientific Progress; The Role of Money in Economic Theory; Price Maintenance; Investment of Foreign Capital. Pp. 248. 1.25

Supplement.—Handbook of the Association, 1916. .75

Volume VII, 1917

The American Economic Review, March, June, September, and December; each, 1.25

Supplement.—Twenty-ninth Annual Meeting:
Papers and Proceedings. The National Point of View in Economics; Landed Property; Two Dimensions of Economic Productivity; Some Social Surveys in Iowa; The Land Problem and Rural Welfare; The Federal Farm Loan Act; Statistics of the Concentration of Wealth; Gold Supply at the Close of the War; Loans and Taxes in War Finance; Problems of Population after the War; Some Phases of the Minimum Wage. Pp. 275. 1.25

Supplement.—Index to the Publications, 1886-1910. .35

Volume VIII, 1918

The American Economic Review, March, June, September, and **December; each, 1.25

Supplement.—Thirtieth Annual Meeting:
Papers and Proceedings. Economic Reconstruction; Federal Taxes upon Income and Excess Profits; Land Utilization and Colonization; Federal Valuation of Railroads; Co-ordination of Employment Bureaus; Control of the Acquisition of Wealth; Motives in Economic Life; Price-Fixing; Problems of Governmental Efficiency; Economic Alliances and Tariff Adjustments. Pp. 317. 1.25

Volume IX, 1919

The American Economic Review, **March, June, September, and December; each, 1.25

**Supplement.—Thirty-first Annual Meeting:
Papers and Proceedings. Economists in Public Service; Interest on Investment a Manufacturing Cost Factor; Control of Marketing Methods and Costs; War and the Supply of Capital; War and the Rate of Interest; Index of the Cost of Living; Securing the Initiative of the Workman; A Legal Dismissal Wage; After-War Gold Policies; Foreign Exchange; Stabilizing the Dollar; Tenancy of Landed Property; Price-Fixing; Economic Theory in an Era of Readjustment; Psychology and Economics; The Open Door and Colonial Policy; Reports of Committees on Foreign Trade and Purchasing Power of Money. Pp. 368. 1.25

**Supplement No. 2.—Report of the Committee on War Finance. Pp. 142. .50

Supplement No. 3—Handbook of the Association, 1919. .75

Volume X, 1920

The American Economic Review, **March, June, September, and December; each, 1.25

Supplement.—Thirty-second Annual Meeting:
Papers and Proceedings. Excess Profits Taxation; Germany's Reparation Payments; International Supervision over Foreign Investments; Results of a Balanced Industrial System; Employee's Representation in Management of Industry; Prices and Reconstruction; Banking Policy and Prices; Large-Scale Marketing; Reports of Committees on Foreign Trade, Co-ordination in Taxation, Census Advisory Committee. Pp. 278. 1.25

Supplement No. 2.—Taxation of Excess Profits in Great Britain. Pp. 244. 2.50

Volume XI, 1921

The American Economic Review, March, June, September, and December; each, 1.25

Supplement.—Thirty-third Annual Meeting:
Papers and Proceedings. The Railroad Situation; Our Foreign Trade Balance; Problems of the Bituminous Coal Industry; Traditional Economic Theory; Non-Euclidean Economics; Federal Taxation of Profits and Income; Teaching of Elementary Economics. Pp. 194. 1.25

Supplement No. 2.—Karelsen Prize Essays, on What Can a Man Afford? Pp. 118. 1.00

Volume XII, 1922

The American Economic Review, March, June, September, and December; each, 1.25

Supplement.—Thirty-fourth Annual Meeting:
Papers and Proceedings. Business Cycles; American Trade Unionism; The Railroads; Workmen's Compensation; Federation in Central America; Teaching of Elementary Economics; The Chain Store Grocer; Economics and Ethics. Pp. 194. 1.25

Supplement No. 2.—Handbook of the Association, 1922. 1.50

Volume XIII, 1923

The American Economic Review, March, June, September, and December; each, 1.25

Supplement.—Thirty-fifth Annual Meeting:
Papers and Proceedings. Trend of Prices; Trend of Rate of Interest and Investment; Outlook for Wages and Employment; Overhead Costs; Commercial Rent and Profits; Labor Turnover; Factors in Wage Determinations; Income of Farmers; Large-Scale Production and Merchandising; Marketing Farm Products; Bureaus of Business Research. Pp. 293. 1.25

Volume XIV, 1924

The American Economic Review, **March, **June, September, and December; each, 1.25

Supplement.—Thirty-sixth Annual Meeting:
Papers and Proceedings. International Trade and Commercial Policy; Railroad Consolidation; Economic Theory; Transportation; American Foreign Trade; Marketing. Pp. 192. 1.25

Supplement No. 2.—Handbook of the Association, 1924. 1.50

Volume XV, 1925

The American Economic Review, March, June, September, and December; each, 1.25

Supplement.—Thirty-seventh Annual Meeting:
Papers and Proceedings. The Economics of Advertising; Problems of Economic Theory; Transportation; Marketing; Giant Power; The Teaching of Business and Economics; Business Administration; Monetary Stabilization; Foreign Service Training; Highway Economics; Psychological Problems of Industry. Pp. 165. 1.25

Supplement No. 2.—Babson Prize Essay, on Forecasting the Price of Hogs. Pp. 22. 1.00

Volume XVI, 1926

The American Economic Review, March, June, September, and December; each, 1.25

Supplement.—Thirty-eighth Annual Meeting:
Papers and Proceedings. Movement of Real Wages; Teaching of Economics; Consuming Power of Labor and Business Fluctuations; Economic Problems involved in the Payment of International Debts; Economics and Geography; Agriculture in our National Policy; Tariff Making; Trade Associations; Theory of Wages; Reducing the Costs of Marketing; Topics in Economic History; Railway Problems; Land Economics; Federal Reserve Policies. Pp. 353. 1.25

Supplement No. 2.—Handbook of the Association, 1926. 1.50

Volume XVII, 1927

The American Economic Review, March, June, September, and December; each, 1.25

Supplement.—Thirty-ninth Annual Meeting:
Papers and Proceedings. Economics of Prohibition; Economic History; Use of the Quantitative Method in the Study of Economic Theory; Present Day Corporation Problems; American Practices Analagous to Foreign Controls over Raw Materials; Marketing; Interest Theory and Price Movements; Problem of Effective Public Utility Regulation; Immigration Restriction—Economic Results and Prospects; Family Budgets; Motor Transportation in the United States. Pp. 218. 1.25

Supplement No. 2.—Report of the Dinner in Honor of Professor John Bates Clark. Pp. 18. .50

Volume XVIII, 1928

The American Economic Review, March, June, September, and December; each, 1.25

Supplement.—Fortieth Annual Meeting:
Papers and Proceedings. Land Economics; Marketing; Present Status and Future Prospects of Quantitative Economics; Post-War Fluctuations of Commodity Prices; Relationship between Departments of Economics and Collegiate Schools of Business; Economic History; Simplification of the Federal Income Tax; Economic Significance of the Increased Efficiency of American Industry; An Approach to the Law of Production and Its Relation to the Welfare of the Wage-Earner; Meaning of Valuation; Railroad Valuation with Special Reference to the O'Fallon Decision; Interest Rates as Factors in the Business Cycle; Should the Debt Settlements be Revised; An Examination of the Reasons for Revision of the Debt Settlements. Pp. 305. 1.25

Supplement No. 2.—Handbook of the Association, 1928. 2.00

Volume XIX, 1929

The American Economic Review, March, June, September, and December; each, 1.25

Supplement.—Forty-first Annual Meeting:
Papers and Proceedings. Market Shifts, Price Movements, and Employment; Some Observations on Unemployment Insurance; Marketing; Land Economics; Law and Economics; Price Stabilization; London and the Trade Cycle; Federal Reserve Policy and Brokers' Loans; Central Planning of Production in Soviet Russia; International Differences in the Labor Movement; Tariff Making in the United States; Economic History; Locality Distribution of Industries; Regulation of Electric Light and Power Utilities; An Inductive Study of Publicly Owned and Operated vs. Privately Owned but Regulated Public Utilities; Regulation of the Common Carrier; Commercial Motor Vehicle and the Public. 1.25

The American Economic Association, founded, among other purposes, for "the encouragement of economic research" and "the encouragement of perfect freedom of economic discussion," has over three thousand members, including public and professional men and most of the leading students of political economy in America. Membership dues are five dollars a year. Each member receives all current reports and publications of the Association.

Address all orders for publications, applications for membership, and inquiries to the

SECRETARY OF THE AMERICAN ECONOMIC ASSOCIATION
Northwestern University, Evanston, Illinois.